

Summary Report

Project Name: **WAG 3**
OU 3-14 R/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat
 Project Location: **INTEC Tank Farm**
 Project Number: **2966-M-5**

<u>ESTIMATE ELEMENT</u>	<u>Estimate Subtotal</u>	<u>Escalation</u> 0.00%	<u>Contingency</u> 27.93%	<u>TOTAL</u>
Total Estimated Cost (TEC)	\$9,059,815	\$0	\$2,530,773	\$11,590,588
Total Cost	\$9,059,815	0.00%	\$2,530,773	\$11,590,588
Rounded Total Cost	(Rounded to the nearest \$ 10000)			\$11,590,000

Type of Estimate: <u>Project Support</u> Estimator: <u>J. Folker, 6-0322</u> Checked By: _____ Approved By: _____	Remarks
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Project Summary Report

Project Name: **WAG 3**
OU 3-14 R/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat
 Project Location: **INTEC Tank Farm**
 Estimate Number: **2960-M-5**

Client: **L. Cahn, 6-3080**
 Prepared By: **J. Folker, 6-0322**
 Estimate Type: **Project Support**

Level	Group	Description	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
		Capital Costs	\$7,982,665	\$0	\$2,369,200	29.68%	\$10,351,865
		---Construction Activities	\$6,708,122	\$0	\$2,369,200	35.32%	\$9,077,322
		---Mobilization/Demobilization	\$482,116	\$0	\$190,098	39.43%	\$672,214
		---Submittals/Implementation Plans	\$482,116	\$0	\$190,098	39.43%	\$672,214
		---Operational Plans	\$149,860	\$0	\$59,011	39.43%	\$208,871
		---Develop MSA Plan	\$41,228	\$0	\$16,256	39.43%	\$57,484
		---Develop ORR POA & Imp. Plan	\$41,228	\$0	\$16,256	39.43%	\$57,484
		---Final Inspection Report	\$250,000	\$0	\$98,575	39.43%	\$348,575
		---Site Security Personnel	\$0	\$0	\$0	40.00%	\$0
		---Monitoring, Sampling, Testing, and Analysis (Capital)	\$0	\$0	\$0	0.00%	\$0
		---Remediation	\$6,226,006	\$0	\$2,179,102	35.00%	\$8,405,108
		---Groundwater Extraction or Containment	\$6,226,006	\$0	\$2,179,102	35.00%	\$8,405,108
		---SRPA Groundwater Contingent Pump and Treat	\$6,226,006	\$0	\$2,179,102	35.00%	\$8,405,108
		---SRPA Extraction Well	\$979,200	\$0	\$342,720	35.00%	\$1,321,920
		---Outside Piping	\$1,025,370	\$0	\$358,879	35.00%	\$1,384,249
		---Containment Building	\$2,783,025	\$0	\$974,059	35.00%	\$3,757,084
		---Treatment Plant	\$1,312,038	\$0	\$459,213	35.00%	\$1,771,251
		---Evaporation Pond	\$126,373	\$0	\$44,231	35.00%	\$170,604
		---Professional/Technical Services (Capital)	\$1,274,543	\$0	\$0	0.00%	\$1,274,543
		---Project Management (Capital)	\$336,406	\$0	\$0	0.00%	\$336,406
		---Remedial Design/Remedial Action Work Plan	\$536,650	\$0	\$0	0.00%	\$536,650
		---Construction Management (Capital)	\$402,487	\$0	\$0	0.00%	\$402,487
		Operational and Maintenance (O&M) Costs	\$1,010,088	\$0	\$151,513	15.00%	\$1,161,601
		---O&M Activities	\$859,303	\$0	\$128,896	15.00%	\$988,199

Project Summary Report

Project Name: **WAG 3**
OU 3-14 RIFS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat
 Project Location: **INTEC Tank Farm**
 Estimate Number: **2966-M-5**

Client: **L. Cahn, 6-3080**
 Prepared By: **J. Folker, 6-0322**
 Estimate Type: **Project Support**

Level	Group	Description Extraction, Containment, or Treatment Systems	Estimate Subtotal	Escalation	Contingency	Contingency %	TOTAL
			\$20,513	\$0	\$123,122	16.00%	\$943,835
		—Project Management (O&M) (Annual)	\$38,490	\$0	\$5,774	15.00%	\$44,264
		—Surveillance and Monitoring (S&M)	\$136,612	\$0	\$20,492	15.00%	\$157,104
		—Project Management (S&M) (Annual)	\$8,882	\$0	\$1,332	15.00%	\$10,215
		—Monitoring, Sampling, Testing, and Analysis (S&M)	\$127,730	\$0	\$19,159	15.00%	\$146,889
		—Institutional Controls (IC)	\$14,172	\$0	\$2,126	15.00%	\$16,298
		—Site Information Database (CFLUP) (Annual)	\$2,972	\$0	\$446	15.00%	\$3,418
		—Annual Institutional Control Inspection	\$2,318	\$0	\$348	15.00%	\$2,665
		—Project Management (IC) (Annual)	\$9,882	\$0	\$1,332	15.00%	\$10,215
		Periodic Costs	\$67,062	\$0	\$10,059	15.00%	\$77,122
		—Construction/O&M Activities (Periodic)	\$3,555	\$0	\$533	15.00%	\$4,088
		—Remedy Failure or Replacement	\$3,555	\$0	\$533	15.00%	\$4,088
		—Professional/Technical Services (Periodic)	\$45,077	\$0	\$6,762	15.00%	\$51,839
		—Five Year Reviews	\$45,077	\$0	\$6,762	15.00%	\$51,839
		—Update Institutional Controls Plan (Periodic)	\$18,430	\$0	\$2,764	15.00%	\$21,194

Total	OU 3-14 FS ALTERNATIVE 5-CONTINGENT SRPA PUMP AND TREAT FOR CLEANUP	\$9,059,815	\$0	\$2,530,773	27.93%	\$11,590,588
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DETAIL ITEM REPORT

Project Name: **WAG 3**
OU 3-14 RU/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat
 Project Location: **INTEC Tank Farm**
 Estimate Number: **2986-M-5**

Client: **L. Cahn, 6-3080**
 Prepared By: **J. Folker, 6-0322**
 Estimate Type: **Project Support**

<u>Code</u>	<u>Description</u>	<u>Contractor</u>	<u>Qty</u>	<u>UOM</u>	<u>Hrs</u>	<u>Resource</u>	<u>Labor</u>	<u>Equipment</u>	<u>Material</u>	<u>Subcontractor</u>	<u>Other</u>	<u>TOTAL</u>
<u>Operational Plans</u>												
Memo:	Operational plans include TPR's, JSA's, Training Plans, Operation and Lay Out Plans, RAD Monitoring and Control Plans, IH Exposure and Sampling Plans, Well Abandonment Plans, Handling/Transport/Disposal Plans, Site Security Plans, and Quality Control Plans.											
	Operational & Layout plan (cost per year)	CWI		U.C. per YR	0		0	0	0	37573	0	37573
Memo:	The operation and layout plan will be a annually produced external document that will be used as a basis for budget. This document will be reviewed through the ORB process prior to state, EPA, and DOE review. (cost from previous ISG estimate)											
	Rad monitoring & control plan (cost per year)	CWI		U.C. per YR	0		0	0	0	6530	0	6530
Memo:	The radiation monitoring and control plan will be a annually produced document that will utilize pre-existing Rad Con procedures. Annual updates are assumed to require the same effort as the initial document. (cost from previous ISG estimate)											
	IH exposure & sample plan (cost per year)	CWI		U.C. per YR	0		0	0	0	5557	0	5557
Memo:	The industrial hygiene exposure and sampling plan will be a annually produced document that will utilize pre-existing IH procedures. Annual updates are assumed to require the same effort as the initial document. (cost from previous ISG estimate)											
	Training Plan	CWI		U.C. per LS	0		0	0	0	50000	0	50000
	Quality Control Plan	CWI		U.C. per LS	0		0	0	0	50000	0	50000
<hr/>												
	Subtotal						\$0	\$0	\$0	\$149,660	\$0	\$149,660
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads						\$0	\$0	\$0	\$0	\$0	\$0
<hr/>												
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$149,660
	Escalation						\$0	\$0	\$0	\$59,011	\$0	\$59,011
	Contingency						\$0	\$0	\$0	\$0	\$0	\$0
<hr/>												
	Total - Operational Plans				0		\$0	\$0	\$0	\$208,671	\$0	\$208,671

DETAIL ITEM REPORT

Project Name: **WAG 3** Client: **L. Cahn, 6-3080**
 OU 3-14 R/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat Prepared By: **J. Folker, 6-0322**
 Project Location: **INTEC Tank Farm** Estimate Type: **Project Support**
 Estimate Number: **2966-M-5**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
Develop MSA Plan												
Memo: The MSA plan will be a annually produced document. The cost associated with this plan includes generation of the plan, project review of the plan, document finalization, and generation of a checklist. (cost from previous ISG estimate).												
	Subtotal						\$0	\$0	\$0	\$41,228	\$0	\$41,228
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads					0.00%	\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$41,228
	Escalation						\$0	\$0	\$0	\$16,256	\$0	\$16,256
	Contingency						\$0	\$0	\$0	\$0	\$0	\$0
---Total Develop MSA Plan												
			0				\$0	\$0	\$0	\$67,484	\$0	\$67,484

Develop ORR POA & Imp. Plan

Memo: The ORR Plan Of Action (POA) and the implementation plan's combined cost is assumed to equal the MSA plan cost.

	ORR POA & imp plan	CWI	U.C. per LS	1.00	LS	0	\$0	\$0	\$0	\$41,228	\$0	\$41,228
	Subtotal						\$0	\$0	\$0	\$41,228	\$0	\$41,228
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads					0.00%	\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$41,228
	Escalation						\$0	\$0	\$0	\$16,256	\$0	\$16,256
	Contingency						\$0	\$0	\$0	\$0	\$0	\$0
---Total Develop ORR POA & Imp. Plan												
						0	\$0	\$0	\$0	\$67,484	\$0	\$67,484

Final Inspection Report

Memo: Cost allowance is based on the PERA for WAG 7 SDA (INEEL/EXT-02-01259) Rev-0.

	FINAL INSPECTION REPORT	CWI	U.C. per LS	1.00	LS	0	\$250,000	\$0	\$0	\$0	\$0	\$250,000
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DETAIL ITEM REPORT

Project Name: **WAG 3** Client: **L. Cahn, 6-3080**
OU 3-14 R/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat Prepared By: **J. Folger, 6-0322**
INTEC Tank Farm Estimate Type: **Project Support**
 Estimate Number: **2966-M-5**

<u>Code</u>	<u>Description</u>	<u>Contractor</u>	<u>Qty</u>	<u>UOM</u>	<u>Hrs</u>	<u>Resource</u>	<u>Labor</u>	<u>Equipment</u>	<u>Material</u>	<u>Subcontractor</u>	<u>Other</u>	<u>TOTAL</u>
<u>Final Inspection Report</u>												
<i>Memo: Cost allowance is based on the PERA for WAG 7 SDA (INTEL/EXT-02-01258) Rev-0.</i>												
	Subtotal						\$250,000	\$0	\$0	\$0	\$0	\$250,000
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads		0.00%				\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$250,000
	Escalation						\$98,575	\$0	\$0	\$0	\$0	\$98,575
	Contingency						\$0	\$0	\$0	\$0	\$0	\$0
	---Total Final Inspection Report				0		\$348,576	\$0	\$0	\$0	\$0	\$348,576

<u>Site Security Personnel</u>												
<i>Memo: Assume INL will maintain security personnel required for construction activities.</i>												
U66J3	SECURITY POLICE OFFICER II (SPO II)	BEA	U/C per Ea	2.00	Ea	0	U96J3	\$0	\$0	\$0	\$0	\$0
	Subtotal						\$0	\$0	\$0	\$0	\$0	\$0
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads		0.00%				\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$0
	Escalation						\$0	\$0	\$0	\$0	\$0	\$0
	Contingency						\$0	\$0	\$0	\$0	\$0	\$0
	---Total Site Security Personnel					0	\$0	\$0	\$0	\$0	\$0	\$0

<u>Monitoring, Sampling, Testing, and Analysis (Capital)</u>												
<i>Memo: These costs will be paid for by INTEC RAL.</i>												
	Monitoring, Sampling, Testing and Analysis		U/C per LS	1.00	LS	0		\$0	\$0	\$0	\$0	\$0

DETAIL ITEM REPORT

Project Name: **WAG 3** Client: **L. Cahn, 6-3080**
 OU 3-14 RI/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat Prepared By: **J. Folker, 6-0322**
 Project Location: **INTEC Tank Farm** Estimate Type: **Project Support**
 Estimate Number: **2066-M-5**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
Monitoring, Sampling, Testing, and Analysis (Capital)												
	Subtotal						\$0	\$0	\$0	\$0	\$0	\$0
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads					0.00%	\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$0
	Escalation						\$0	\$0	\$0	\$0	\$0	\$0
	Contingency						\$0	\$0	\$0	\$0	\$0	\$0
	---Total Monitoring, Sampling, Testing, and Analysis (Capital)				0		\$0	\$0	\$0	\$0	\$0	\$0

SRPA Extraction Well

Memo: Costs Include General Conditions

NM80 OTHER - SERVICES (5 SRPA Extraction Wells) U/C per LF NM80 LF 408
 4 wells (incl one injection well) @ 600 ft. each = 2,400 ft. Subcontract drilling unit cost of \$337/LF is based on group 4 drilling costs from CAPS for 16 Phase I wells at INTEC in clean area in FY01 for 5,676 LF and
 Memo: total subcontract cost of \$1,911,840. (\$1,911,840/5,676=\$337/LF). Assume drilling cost is 1.10 times FY 01 historicals for drilling in contaminated areas (\$370/LF). \$370/LF escalated 2001 to 2006, per Defense and Gen Construction esc. indices, = 1.1035 x 370 = \$408/LF

Subtotal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$979,200
Sales Tax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Overheads	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Estimate	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$979,200
Escalation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contingency	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$342,720
---Total SRPA Extraction Well	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,321,920

Outside Piping

Memo: From FS-314 Pump and Treatment Yard Plan, scaled double cased C.S. (see page 43) piping. Costs include General Conditions

ICP U/C per LF 4,135.00 LF 887
 SRPA Extraction Well Discharge Piping 0
 Memo: 4/6" Double CS pipe, fittings, sleepers. Length scaled from FS 3-14 Pump and Treatment Yard and Piping Plan. Unit costs from RS Means Environmental Remediation Cost Data.

Subtotal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$887
Sales Tax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Overheads	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Estimate	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$887
Escalation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contingency	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$366,775
---Total Outside Piping	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$366,775

DETAIL ITEM REPORT

Project Name: **WAG 3**
OU 3-14 R/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat
 Project Location: **INTEC Tank Farm**
 Estimate Number: **2966-M-5**

Client: **L. Cahn, 6-3080**
 Prepared By: **J. Folger, 6-0322**
 Estimate Type: **Project Support**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
Outside Piping												
Memo: From FS-314 Pump and Treatment Yard Plan, scaled double cased C.S. (see page 43) piping. Costs include General Conditions												
	Evaporation Ponds Piping	ICP	2,221.00	LF	0		\$0	\$0	\$0	\$197,003	\$0	\$197,003
Memo: 4/8" Double CS pipe, fittings, sleepers. Length scaled from FS 3-14 Pump and Treatment Yard and Piping Plan. Unit costs from RS Means Environmental Remediation Cost Data.												
	Injection Well Piping	ICP	3,730.00	LF	0		\$0	\$0	\$0	\$33,411	\$0	\$33,411
Memo: 4/8" Double CS pipe, fittings, sleepers. Length scaled from FS 3-14 Pump and Treatment Yard and Piping Plan. Unit costs from RS Means Environmental Remediation Cost Data.												
	Pipe Insulation	ICP	10,086.00	LF	0		\$0	\$0	\$0	\$336,973	\$0	\$336,973
Memo: Ref: Estimate file # 6271, item 1.3.15.1.5, for 6" pipe insulation.												
Subtotal							\$0	\$0	\$0	\$1,025,370	\$0	\$1,025,370
Sales Tax							\$0	\$0	\$0	\$0	\$0	\$0
Overheads							\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Estimate												
Escalation												
Contingency												
--Total Outside Piping												
			0				\$0	\$0	\$0	\$1,384,249	\$0	\$1,384,249

Containment Building

Memo: Building square foot costs are based on replacement value for a pre-engineered metal building at the BNL. See estimate file # 8773-B for subcontract unit cost. Construction subcontract for building includes: general conditions, sitework, concrete, masonry, finishes, special construction, mechanical (incl HVAC with NEPA filtration), and electrical. See FS for bldg footprint with outside dimensions.

	Pre-Engineered Metal Building	ICP	12,825.00	SF	0		\$0	\$0	\$0	\$217	\$0	\$2,783,025
Memo: 135' x 95' x 12825 SF												

DETAIL ITEM REPORT

Project Name: **WAG 3** Client: **L. Cahn, 6-3080**
OU 3-14 RUFs Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat Prepared By: **J. Folker, 6-0322**
Project Location: **INTEC Tank Farm** Estimate Type: **Project Support**
Estimate Number: **2006-M-5**

Code Description Contractor **Qty** **UOM** **Hrs** **Resource** **Labor** **Equipment** **Material** **Subcontractor** **Other** **TOTAL**

Containment Building

Memo: Building square foot costs are based on replacement value for a pre-engineered metal building at the INL. See estimate file # 8772-B for subcontract unit cost. Construction subcontract for building includes: general conditions, sitework, concrete, masonry, finishes, special construction, mechanical (incl HVAC with HEPA filtration), and electrical. See FS for bldg footprint with outside dimensions.

Subtotal	\$0	\$0	\$0	\$2,783,025	\$0	\$2,783,025	\$0	\$2,783,025	
Sales Tax				\$0	\$0	\$0	\$0	\$0	\$0
Overheads			0.00%	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Estimate				\$0	\$0	\$0	\$0	\$0	\$2,783,025
Escalation				\$0	\$0	\$0	\$0	\$0	\$0
Contingency				\$0	\$0	\$974,059	\$0	\$974,059	\$974,059
-- Total Containment Building				0		\$3,757,084	\$0	\$3,757,084	\$3,757,084

Treatment Plant

Memo: Costs Include General Conditions

Process Equipment, Piping, Valves
Equipment, as specified in Table 4.2, FS; (2) cation columns w/resin; (1) salt tank; (1) salt conveyor; (1) phosphate tank; (2) filters; (1) contact vessel; (4) surge tanks. See also Figure 4.4, Process Flow Diagram, FS, Figure 4.5, P&I Diagram, FS. Costs from: Richardsons Process Plant Construction, Volume 4, Hot Process Water Softener Systems, (for 550 gpm) Account # 100-374, escalated to 2006.

Electrical, I&C
Memo: 40% of process equipment costs

Subtotal	\$0	\$0	\$0	\$1,312,038	\$0	\$1,312,038	\$0	\$1,312,038	
Sales Tax				\$0	\$0	\$0	\$0	\$0	\$0
Overheads			0.00%	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Estimate				\$0	\$0	\$0	\$0	\$0	\$1,312,038
Escalation				\$0	\$0	\$459,213	\$0	\$459,213	\$459,213
Contingency				\$0	\$0	\$0	\$0	\$0	\$0
-- Total Treatment Plant				0		\$1,771,251	\$0	\$1,771,251	\$1,771,251

DETAIL ITEM REPORT

Project Name: **WAG 3**

OU 3-14 R/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat

Project Location: **INTEC Tank Farm**

Estimate Number: **2968-M-5**

Client: **L. Cahn, 6-3080**

Prepared By: **J. Folger, 6-0322**

Estimate Type: **Project Support**

Code Description

Contractor

Qty

UOM

Hrs

Resource

Labor

Equipment

Material

Subcontractor

Other

TOTAL

Evaporation Pond

Memo: **Costs Include General Conditions**

Evaporation Pond

ICP

U.C. per LS

1.00 LS

0

\$0

\$0

\$0

\$0

\$0

\$126,373

Memo: Reference estimate file # 2958-E, Tank Farm Interim Action Phase 1 & 2, AFC, Item 9102.2.6, Evaporation Pond. (For 1 evap pond-215,000 SF). Hence, 120,000 SF/215,000 SF = 56% x \$192,138 = \$107,597 x 1.1745 (escalation 2000 to 2006) = \$126,373.

Subtotal

Sales Tax

Overheads

Subtotal Estimate

Escalation

Contingency

---Total Evaporation Pond

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

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\$0

\$0

\$0

Project Management (Capital)

CWI

PM cost estimated at 5% of construction

U.C. per \$

6,708,122.00 \$

0

\$0

\$0

\$0

\$0

\$0

\$0

Subtotal

Sales Tax

Overheads

Subtotal Estimate

Escalation

Contingency

---Total Project Management (Capital)

\$0

\$0

\$0

\$0

\$0

\$0

\$0

\$0

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\$0

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\$0

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\$0

\$0

Remedial Design/Remedial Action Work Plan

CWI

RA Work Plan cost estimated at 8% of construction

U.C. per \$

6,708,122.00 \$

0

\$0

\$0

\$0

\$0

\$0

\$0

Memo: Estimate assumes equipment design will be done by equipment manufacturers, for the track-hoe.

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18:47:44

Estimating Services Department

Material Costs where applicable include Idaho State Sales Tax

Page No. 7

DETAIL ITEM REPORT

Project Name: **WAG 3**
OU 3-14 R/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat
 Project Location: **INTEC Tank Farm**
 Estimate Number: **2966-M-5**

Client: **L. Cahn, 6-3080**
 Prepared By: **J. Folker, 6-0322**
 Estimate Type: **Project Support**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
Remedial Design/Remedial Action Work Plan												
	Subtotal						\$536,650	\$0	\$0	\$0	\$0	\$536,650
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads		0.00%				\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$636,650
	Escalation						\$0	\$0	\$0	\$0	\$0	\$0
	Contingency						\$0	\$0	\$0	\$0	\$0	\$0
--Total Remedial Design/Remedial Action Work Plan							\$536,650	\$0	\$0	\$0	\$0	\$536,650

Construction Management (Capital)

	CWI	U/C per \$	6,708,122.00	\$	0		0.06	0	0	0	0	0.06
CM cost estimated at 6% of construction												
	Subtotal						\$402,487	\$0	\$0	\$0	\$0	\$402,487
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads		0.00%				\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$402,487
	Escalation						\$0	\$0	\$0	\$0	\$0	\$0
	Contingency						\$0	\$0	\$0	\$0	\$0	\$0
--Total Construction Management (Capital)							\$402,487	\$0	\$0	\$0	\$0	\$402,487

Extraction, Containment, or Treatment Systems

	CWI	U/C per \$	5,123,618.00	\$	0		0	0	0	0	0.02	0.02
P&T Maintenance @ 2% of P&T Construction Costs												
Memo: Yearly costs. This will cover necessary facility replacement.												
	Subtotal						\$0	\$0	\$0	\$0	\$102,472	\$102,472
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads		0.00%				\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$102,472
	Escalation						\$0	\$0	\$0	\$0	\$0	\$0
	Contingency						\$0	\$0	\$0	\$0	\$0	\$0
--Total Extraction, Containment, or Treatment Systems							\$0	\$0	\$0	\$0	\$0	\$102,472

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Estimating Services Department

Material Costs where applicable include Idaho State Sales Tax
 Page No. 8

DETAIL ITEM REPORT

Project Name: **WAG 3** Client: **L. Cahn, 6-3080**
 OU 3-14 R/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat Prepared By: **J. Folker, 6-0322**
 Project Location: **INTEC Tank Farm** Estimate Type: **Project Support**
 Estimate Number: **2986-M-5**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
U52	UTILITY OPERATOR	CWI	2.00	FTE	8760	\$36.46	318389.6	0	0	0	0	318389.6
					17,520	U52	\$638,779	\$0	\$0	\$0	\$0	\$638,779
Z08	SUPERVISOR, OPERATIONS	CWI	0.25	FTE	2060	\$53.12	110489.6	0	0	0	0	110489.6
					520	Z08	\$27,622	\$0	\$0	\$0	\$0	\$27,622
	Allowance for Consumables and Supplies	CWI	1.00	Lot	0		0	0	0	20000	0	20000
							\$0	\$0	\$0	\$0	\$20,000	\$20,000
	Shift Differential	CWI					0.1	0	0	0	0	0.1
	Memo: Total labor = \$638,779/2 = \$319,390 (back shift). 10% shift differential for back shift.				0		\$31,939	\$0	\$0	\$0	\$0	\$31,939
	Subtotal						\$698,341	\$0	\$0	\$122,472	\$0	\$820,813
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads						\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$0
	Escalation						\$104,751	\$0	\$0	\$18,371	\$0	\$123,122
	Contingency											
	—Total Extraction, Containment, or Treatment Systems				18,040		\$803,092	\$0	\$0	\$140,843	\$0	\$943,935

Project Management (O&M) (Annual)

Memo: Responsible for managing baseline schedule and budget, LCB mods, changes and updates, reporting, resource loading, etc. 10 hrs/month. Based on current/proposed crew makeup and determined duration periods.

E28	PROJECT MANAGEMENT	CWI	52.00	wks	10	\$74.02	740.2	0	0	0	0	740.2
					520	E28	\$38,490	\$0	\$0	\$0	\$0	\$38,490

DETAIL ITEM REPORT

Client: **L. Cain, 6-3080**
 Prepared By: **J. Folker, 6-0322**
 Estimate Type: **Project Support**

Project Name: **WAG 3**
OU 3-14 R/FS Alternative 3- Contingent Snake River Plain Aquifer Pump and Treat
 Project Location: **NTEC Tank Farm**
 Estimate Number: **2968-M-5**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
Project Management (O&M) (Annual)												
Memo: Responsible for managing baseline schedule and budget, LCB mods, changes and updates, reporting, resource loading, etc. 10 hrs/month. Based on current/proposed crew makeup and determined duration periods.												
	Subtotal						\$38,490	\$0	\$0	\$0	\$0	\$38,490
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads					0.00%	\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$38,490
	Escalation						\$5,774	\$0	\$0	\$0	\$0	\$5,774
	Contingency						\$5,774	\$0	\$0	\$0	\$0	\$5,774
---Total Project Management (O&M) (Annual)							620	\$44,264	\$0	\$0	\$0	\$44,264

Project Management (S&M) (Annual)												
Memo: Responsible for managing baseline schedule and budget, LCB mods, changes and updates, reporting, resource loading, etc. Based on current/proposed crew makeup and determined duration periods.												
E28	PROJECT MANAGEMENT	CWI	U.C. per month	12.00	months	10	\$74.02	740.2	\$0	\$0	\$0	740.2
						120	E28	\$8,882	\$0	\$0	\$0	\$8,882
	Subtotal						\$8,882	\$0	\$0	\$0	\$0	\$8,882
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads						\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$8,882
	Escalation						\$1,332	\$0	\$0	\$0	\$0	\$1,332
	Contingency						\$1,332	\$0	\$0	\$0	\$0	\$1,332
---Total Project Management (S&M) (Annual)							120	\$10,215	\$0	\$0	\$0	\$10,215

Monitoring, Sampling, Testing, and Analysis (S&M)
Memo: Includes radiation surveys and environmental monitoring for Cpp-94. For groundwater monitoring, group 5, estimate file # 6330-DWP2-11B and WBS P.4.C1.04.01, Routine GW monitoring LCB estimates are used as basis. AWM first 5 years (from 2007) then every 5 years till 2066. The long term groundwater monitoring requirements will be the same as Group 5 as specified in the long term monitoring plan in terms of number of wells, frequency, number of constituents, etc. See L. S. Cain email to J. Folker dated 08/12/2006.

DETAIL ITEM REPORT

Project Name: **WAG 3**
OU 3-14 RI/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat
 Project Location: **INTEC Tank Farm**
 Estimate Number: **2966-M-5**

Client: **L. Cahn, 6-3080**
 Prepared By: **J. Folger, 6-0322**
 Estimate Type: **Project Support**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
	Soil Monitoring	CWI	U/C per LS	1.00	LS	0	\$0	\$0	\$0	\$0	0.01	\$0
	Memo: A No Longer Contained In Determination will be approved for all INTEC groundwater and perched water. The tank farm tanks will be clean closed. The RI/BSRA showed that there was no risk from the RCRA constituents in the soil. Therefore a RCRA cap, post closure permit, or RCRA groundwater monitoring program will not be required.											
X12	ENVIRONMENTAL RESTORATION	CWI	U/C per ea	1.00	ea	40	\$47.41	1896.4	\$0	\$0	0	1896.4
						40	X12	\$1,896	\$0	\$0	\$0	\$1,896
U-60	RADIOLOGICAL CONTROL TECH	CWI	U/C per ea	1.00	ea	40	\$40.07	1602.8	\$0	\$0	0	1602.8
						40	U-60	\$1,603	\$0	\$0	\$0	\$1,603
	Groundwater Monitoring	CWI	U/C per LS	1.00	LS	0	\$0	\$0	\$0	\$0	0.01	\$0
	Annual Well Monitoring Including Report	CWI	U/C per ea	1.00	ea	0	\$0	30260	\$0	\$0	0	30260
	Memo: Based on Group 5 DWP estimate file # 8530-DWP2-11B, escalated to 2005.											
	Prepare TOS, Work Planning & Mobilization	CWI	U/C per LS	1.00	LS	40	\$53.67	2146.8	\$0	\$0	0	2146.8
	Memo: Based on Group 5 actuals. See Routine GW monitoring LCB, ID ERM4100045.											
	Collect samples	CWI	U/C per LS	1.00	LS	0	\$0	\$0	\$0	\$0	0.01	\$0
	Memo: Based on Group 5 actuals. See Routine GW monitoring LCB, ID ERM4100046.											
S15	ANALYTICAL CHEMISTRY	CWI	U/C per ea	1.00	ea	12	\$53.67	644.04	\$0	\$0	0	644.04
						12	S15	\$644	\$0	\$0	\$0	\$644
T10	LABORATORY TECH	CWI	U/C per ea	1.00	ea	8	\$37.03	296.24	\$0	\$0	0	296.24
						8	T10	\$296	\$0	\$0	\$0	\$296
T15	ENVIRONFIELD TECH	CWI	U/C per ea	1.00	ea	200	\$28.84	5968	\$0	\$0	0	5968
						200	T15	\$5,968	\$0	\$0	\$0	\$5,968
U16	FITTER	CWI	U/C per ea	1.00	ea	3	\$36.61	109.83	\$0	\$0	0	109.83
						3	U16	\$110	\$0	\$0	\$0	\$110
U76	CONSTRUCTION IRON WORKER (FORCE ACCT)	CWI	U/C per ea	1.00	ea	30	\$33.36	1000.8	\$0	\$0	0	1000.8
						30	U76	\$1,001	\$0	\$0	\$0	\$1,001

DETAIL ITEM REPORT

Project Name: **WAG 3** Client: **L. Cahn, 6-3080**
OU 3-14 RUPs Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat Prepared By: **J. Folker, 6-0322**
Project Location: **INTEC Tank Farm** Estimate Type: **Project Support**
Estimate Number: **2986-M-5**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
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Monitoring, Sampling, Testing, and Analysis (\$&M)

Memo: Includes radiation surveys and environmental monitoring for CPP-96. For groundwater monitoring, group 5, estimate file # 8530-DWP2-11B and WBS P.A.C1.04.01, Routine GW monitoring LCB estimates are used as basis. AWMR first 5 years (from 2007) then every 5 years till 2096. The long term groundwater monitoring requirements will be the same as Group 5 as specified in the long term monitoring plan in terms of number of wells, frequency, number of constituents, etc. See L. S. Cahn email to J. Folker dated 09/12/2006.

U84	CONSTRUCTION LABORER (FORCE ACCT)	CWI	U.C. per ea	1.00	ea	66	\$31.36	2069.76	0	0	0	2069.76 \$2,070
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X12	ENVIRONMENTAL RESTORATION	CWI	U.C. per ea	1.00	ea	26	\$47.41	1232.66	0	0	0	1232.66 \$1,233
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	Sample Analysis	CWI	U.C. per LS	1.00	LS	0	0	0	0	72274	0	72274 \$72,274
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Memo: Based on Group 5 actuals. See Routine GW monitoring LCB, ID ERM4100047.

	Data Validation & L&V Report	CWI	U.C. per LS	1.00	LS	0	0	0	0	0	0.01	0.01 \$0
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Memo: Based on Group 5 actuals. See Routine GW monitoring LCB, ID ERM4100046.

A02	DATA ENTRY	CWI	U.C. per ea	1.00	ea	40	\$19.98	799.2	0	0	0	799.2 \$799
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NRPR	RECORDS MANAGEMENT	CWI	U.C. per hrs	9.00	hrs	0	0	0	38.38	0	0	38.38 \$345
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A25	OFFICE ADMINISTRATION/COORDINATION	CWI	U.C. per ea	1.00	ea	3	\$25.58	76.74	0	0	0	76.74 \$77
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S15	ANALYTICAL CHEMISTRY	CWI	U.C. per ea	1.00	ea	35	\$53.67	1878.45	0	0	0	1878.45 \$1,878
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DETAIL ITEM REPORT

Client: L. Cahn, 6-3080
 Prepared By: J. Folker, 6-0322
 Estimate Type: Project Support

Project Name: WAG 3
 OU 3-14 RU/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat
 Project Location: INTEC Tank Farm
 Estimate Number: 2986-M-5

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
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Monitoring, Sampling, Testing, and Analysis (S&M)

Memo: Includes radiation surveys and environmental monitoring for CPP-96. For groundwater monitoring, group 5, estimate file # 6530-DWP2-11B and WBS P.A.C1.04.01, Routine GW monitoring LCB estimates are used as basis. AWMR first 5 years (from 2007) then every 5 years till 2005. The long term groundwater monitoring requirements will be the same as Group 5 as specified in the long term monitoring plan in terms of number of wells, frequency, number of constituents, etc. See L. S. Cahn email to J. Folker dated 08/12/2005.

S16	CHEMICAL SCIENCES	CWI	1.00	ea		U/C per ea	2212.38 \$2,212	0 \$0	0 \$0	0 \$0	0 \$0	2212.38 \$2,212
							\$52,194	\$0	\$3,261	\$72,274	\$0	\$127,730
	Subtotal						\$0	\$0	\$0	\$0	\$0	\$0
	Sales Tax						\$0	\$0	\$0	\$0	\$0	\$0
	Overheads						\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate						\$0	\$0	\$0	\$0	\$0	\$0
	Escalation						\$7,829	\$0	\$489	\$10,841	\$0	\$19,159
	Contingency											
	--- Total Monitoring, Sampling, Testing, and Analysis (S&M)						\$60,023	\$0	\$3,751	\$83,115	\$0	\$146,889

Site Information Database (CFLUP) (Annual)

Memo: Institutional controls will remain in effect as long as hazards remain which make the site unsuitable for unrestricted residential use. Maintain the site listings and updates in the INL CFLUP; update changes or terminations agreed to by the agencies. Incorporation of ORB comments. See WBS P.A.C1.03.02, Institutional Controls, estimate by R. Fitch. Once per year through 2005. 1 year costs.

X12	ENVIRONMENTAL RESTORATION	CWI	1.00	ea		U/C per ea	2370.5 \$2,371	0 \$0	0 \$0	0 \$0	0 \$0	2370.5 \$2,371
							\$0 \$47.41 50 X12					
NRPG	WRITER/EDITOR	CWI	2.00	hrs		U/C per hrs	0	0	58.69 \$117	0 \$0	0 \$0	58.69 \$117

Client: **L. Cahn, 6-3080**
Prepared By: **J. Folker, 6-0322**
Estimate Type: **Project Support**

Project Name: **WAG 3**
OU 3-14 R/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat

Project Location: **INTEC Tank Farm**

Estimate Number: **2968-M-5**

Project Name: **WAG 3**
 Project Location: **OU 3-14**
 Estimate Number: **INTEC 1**
2966-M-

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
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Site Information Database (CELU) (Annual)

Memo: Institutional controls will remain in effect as long as hazards remain which make the site unsuitable for unrestricted residential use. Maintain the site listings and updates in the INL CFLUP; update changes or terminations agreed to by the agencies. Incorporation of ORR comments. See WBS P.4.C.1.03.02, Institutional Controls, estimate by R. Fitch. Once per year through 2005, 1 year costs.

\$05	GEOLOGY	CWI	U.C. per ea	1.00	ea	8	\$60.57	484.56	0	0	0	0	484.56	0
\$05						8	\$05	\$485	\$0	\$0	\$0	\$0	\$485	\$0
	Subtotal							\$2,855	\$0	\$117	\$0	\$0	\$2,972	\$0
	Sales Tax							\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Overheads		0.00%					\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate								\$0	\$0	\$0	\$0	\$2,972	\$0
	Escalation							\$428	\$0	\$18	\$0	\$0	\$446	\$0
	Contingency													\$0
	Total					58		\$3,283	\$0	\$136	\$0	\$0	\$3,418	\$0

Annual Institutional Control Inspection

Memo: Annual Inspection (Assessment). See WB\$ No. P.4.C1.03.02, ID # ERM3200010.

X12	ENVIRONMENTAL RESTORATION	CWI	U.C. per ea	1.00	ea	379.28	0	0	0	379.28
	Memo: For assessment					\$379	\$0	\$0	\$0	\$379
S05	GEOLOGY	CWI	U.C. per ea	1.00	ea	1938.24	0	0	0	1938.24
	Memo: For assessment					\$1,938	\$0	\$0	\$0	\$1,938
Subtotal						\$2,318	\$0	\$0	\$0	\$2,318
Sales Tax						\$0	\$0	\$0	\$0	\$0
Overheads			0.00%			\$0	\$0	\$0	\$0	\$0
Subtotal Estimate							\$0	\$0	\$0	\$2,318
Escalation						\$0	\$0	\$0	\$0	\$0
Contingency						\$348	\$0	\$0	\$0	\$348
Total Annual	Inspection			40		\$2,665	\$0	\$0	\$0	\$2,665

Project Name: **WAG 3**
OU 3-14 RI/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat

Project Location: **INTEC Tank Farm**

Estimate Number: **2966-M-5**

Memo: Responsible for managing baseline schedule and budget, LCB mods, changes and updates, reporting, resource loading, etc. Based on current/proposed crew makeup and determined duration periods.

Memo: Warmington and physical barriers replacement. (Annual costs) See Institutions! Controls WBS No. P.4.C1.03.02.ID # ERM3200100, "Maintain Institutional Controls" for basis of estimate.

DETAIL ITEM REPORT

Project Name: **WAG 3** Client: **L. Cahn, 6-3080**
 OU 3-14 R/FS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat Prepared By: **J. Folker, 6-0322**
 Project Location: **INTEC Tank Farm** Estimate Type: **Project Support**
 Estimate Number: **2966-M-5**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
Five Year Reviews												
Memo: Establish guideline, review remedy, write report, review report, publish report. Based on FY 2004 OU 1-10 LTS and Five Year Review actual costs.												
	Assemble Data	CWI	1.00	LS	0		\$0	0	0	0	0.01	\$0
Z09	SUPERVISOR, SCI/ENG FUNC	CWI	1.00	ea	84	\$72.73	6109.32	0	0	0	0	6109.32
					84	Z09	\$6,109	\$0	\$0	\$0	\$0	\$6,109
NM60	OTHER-DIRECT PURCHASES	CWI	1.00	LS	0		\$0	0	2398	0	0	2398
								\$0	\$2,398	\$0	\$0	\$2,398
	Prepare Draft	CWI	1.00	LS	0		\$0	0	0	0	0.01	\$0
								\$0	\$0	\$0	\$0	\$0
NRPF	ELECTRONIC PUBLICATIONS	CWI	5.00	hrs	0		\$0	0	36.17	0	0	36.17
								\$0	\$181	\$0	\$0	\$181
NRPG	WRITER/EDITOR	CWI	28.00	hrs	0		\$0	0	58.69	0	0	58.69
								\$0	\$1,643	\$0	\$0	\$1,643
T08	ILLUSTRATOR/ARTIST	CWI	1.00	ea	4	\$36.51	146.04	0	0	0	0	146.04
					4	T08	\$146	\$0	\$0	\$0	\$0	\$146
X12	ENVIRONMENTAL RESTORATION	CWI	1.00	ea	315	\$47.41	14934.15	0	0	0	0	14934.15
					315	X12	\$14,934	\$0	\$0	\$0	\$0	\$14,934
Z09	SUPERVISOR, SCI/ENG FUNC	CWI	1.00	ea	73	\$72.73	5309.29	0	0	0	0	5309.29
					73	Z09	\$5,309	\$0	\$0	\$0	\$0	\$5,309
NM60	OTHER-DIRECT PURCHASES	CWI	1.00	LS	0		\$0	0	8747	0	0	8747
								\$0	\$8,747	\$0	\$0	\$8,747
NM80	OTHER - SERVICES	CWI	1.00	LS	0		\$0	0	0	155	0	155
								\$0	\$0	\$155	\$0	\$155
	Establish Team	CWI	1.00	LS	0		\$0	0	0	0	0.01	\$0

DETAIL ITEM REPORT

Project Name: **WAG 3** Client: **L. Cahn, 6-3080**
 OU 3-14 RUFFS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat Prepared By: **J. Folger, 6-0322**
 Project Location: **INTEC Tank Farm** Estimate Type: **Project Support**
 Estimate Number: **2966-W-5**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
Five Year Reviews												
Memo: Establish guideline, review remedy, write report, review report, publish report. Based on FY 2004 OU 1-10 LTS and Five Year Review actual costs.												
Z08	SUPERVISOR, SCIENG FUNC	CWI	1.00	ea		U.C. per ea	54 \$72.73	3927.42	0	0	0	3927.42
							54 Z08	\$3,927	\$0	\$0	\$0	\$3,927
NM60	OTHER-DIRECT PURCHASES	CWI	1.00	LS		U.C. per LS	0	0	1527	0	0	1527
								\$0	\$1,527	\$0	\$0	\$1,527
	Subtotal							\$30,426	\$0	\$14,496	\$155	\$45,077
	Sales Tax							\$0	\$0	\$0	\$0	\$0
	Overheads					0.00%		\$0	\$0	\$0	\$0	\$0
	Subtotal Estimate							\$0	\$0	\$0	\$0	\$45,077
	Escalation							\$4,564	\$2,174	\$23	\$0	\$6,762
	Contingency							\$0	\$0	\$0	\$0	\$0
--- Total Five Year Reviews												
					530			\$34,990	\$0	\$16,671	\$178	\$51,839

Update Institutional Controls Plan (Periodic)

Memo: IC annual report-ORB review, incorporate agency comments, revise IC plan, prep, graphic support, tech edit, doc control, revise IC plan-ORB review. Ref WBS P.4.C1.03.02 Institutional Controls Estimate. ID # ERM3200045. 1 year costs.

X12	ENVIRONMENTAL RESTORATION	CWI	1.00	ea		U.C. per ea	260 \$47.41	12326.6	0	0	0	12326.6
							260 X12	\$12,327	\$0	\$0	\$0	\$12,327
	Memo: For prep, tech edit, doc control.											
NRPG	WRITER/EDITOR	CWI	60.00	hrs		U.C. per hrs	0	0	58.69	0	0	58.69
								\$0	\$3,521	\$0	\$0	\$3,521
	Memo: For tech edit											
NRPR	RECORDS MANAGEMENT	CWI	18.00	hrs		U.C. per hrs	0	0	38.38	0	0	38.38
								\$0	\$691	\$0	\$0	\$691
	Memo: For prep doc control.											
S05	GEOLOGY	CWI	1.00	ea		U.C. per ea	14 \$60.57	847.98	0	0	0	847.98
							14 S05	\$848	\$0	\$0	\$0	\$848
	Memo: ORB review											

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Estimating Services Department

Material Costs where applicable include Idaho State Sales Tax
 Page No. 17

DETAIL ITEM REPORT

Project Name: **WAG 3** Client: **L. Cahn, 6-3080**
OU 3-14 RUFFS Alternative 5- Contingent Snake River Plain Aquifer Pump and Treat Prepared By: **J. Folker, 6-0322**
Project Location: **INTEC Tank Farm** Estimate Type: **Project Support**
Estimate Number: **2906-W-5**

Code	Description	Contractor	Qty	UOM	Hrs	Resource	Labor	Equipment	Material	Subcontractor	Other	TOTAL
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Update Institutional Controls Plan (Periodic)

Memo: IC annual report-ORB review, incorporate agency comments, revise IC plan, prep, graphic support, tech edit, doc control, revise IC plan-ORB review. Ref WBS P.4.C1.03.02 Institutional Controls Estimate. ID # ERM3200046. 1 year costs.

X12	ENVIRONMENTAL RESTORATION	CWI	1.00	ea	22	\$47.41	1043.02	0	0	0	0	1043.02
		U.C. per ea			22	X12	\$1,043	\$0	\$0	\$0	\$0	\$1,043

Memo: Incorporate ORB, agency comments.

Subtotal	\$14,218	\$0	\$4,212	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,430
Sales Tax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Overheads	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Estimate	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,430
Escalation	\$2,133	\$0	\$632	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,764
Contingency												
Total Update Institutional Controls Plan (Periodic)	296	\$16,350	\$0	\$4,844	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$21,194

OU 3-14 FS ALTERNATIVE 5-CONTINGENT SRPA PUMP AND TREAT

Subtotal	\$2,383,905	\$0	\$22,087	\$6,531,351	\$122,472	\$0	\$9,059,815
Sales Tax	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Overheads	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Subtotal Estimate	\$0	\$0	\$0	\$0	\$0	\$0	\$9,059,815
Escalation	\$227,479	\$0	\$3,313	\$2,281,610	\$18,371	\$0	\$2,530,773
Contingency							

Total OU 3-14 FS ALTERNATIVE 5-CONTINGENT SRPA PUMP AND TREAT FOR CLEANUP	20,381	\$2,611,384	\$0	\$25,400	\$8,812,960	\$140,843	\$11,530,588
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COST ESTIMATE SUMMARY SHEET

Project: OU 3-14 Tank Farm

DESCRIPTION	ALTERNATIVES							
	#1 Limited Action	#2a Inst Ctrls, Monitoring Containment (By 2012)	#2b Inst Ctrls, Monitoring Containment (By 2035)	#3a Inst Ctrls, Monitoring Source Removal Containment (By 2012)	#3b Inst Ctrls, Monitoring Source Removal Containment (By 2035)	#4a Inst Ctrls, Monitoring Source Treatment Containment (By 2012)	#4b Inst Ctrls, Monitoring Source Treatment Containment (By 2035)	#5 Contingent SRPA Pump & Treat for Cleanup (By 2070)
TOTAL PROJECT DURATION (Years)	84.00	84.00	84.00	84.00	84.00	84.00	84.00	84.00
CAPITAL COST -								
Capital Cost Subtotal	\$0	\$8,693,917	\$7,990,233	\$38,180,310	\$37,396,015	\$12,947,994	\$12,163,699	\$7,982,665
Contingency	\$0	\$2,012,642	\$1,595,650	\$20,514,281	\$20,134,014	\$3,775,635	\$3,349,883	\$2,369,255
Total Capital Cost in FY06 Dollars	\$0	\$10,706,559	\$9,585,883	\$58,694,591	\$57,530,029	\$16,723,629	\$15,513,582	\$10,351,920
Total Capital Cost in Escalated Dollars	\$0	\$14,913,687	\$17,846,333	\$81,758,553	\$107,105,432	\$23,295,157	\$28,882,114	\$49,766,367
Total Capital Cost in Net Present Value	\$0	\$6,887,890	\$3,700,240	\$37,760,207	\$22,207,130	\$10,758,874	\$5,988,388	\$572,277
OPERATION AND MAINTENANCE COSTS (O&M) -								
O&M Cost Subtotal	\$11,174,911	\$11,174,911	\$11,174,911	\$11,174,911	\$11,174,911	\$11,174,911	\$11,174,911	\$20,520,325
Contingency	\$1,676,237	\$1,676,237	\$1,676,237	\$1,676,237	\$1,676,237	\$1,676,237	\$1,676,237	\$3,078,049
Total O&M Cost in FY06 Dollars	\$12,851,148	\$12,851,148	\$12,851,148	\$12,851,148	\$12,851,148	\$12,851,148	\$12,851,148	\$23,598,374
Total O&M Cost in Escalated Dollars	\$47,064,159	\$47,064,159	\$46,373,508	\$47,064,159	\$47,064,159	\$47,064,159	\$47,064,159	\$149,427,095
Total O&M Cost in Net Present Value	\$2,658,711	\$2,658,711	\$2,656,021	\$2,658,711	\$2,658,711	\$2,658,711	\$2,658,711	\$845,539
PERIODIC COSTS -								
Periodic Cost Subtotal	\$2,636,141	\$11,462,942	\$11,462,942	\$11,462,942	\$11,462,942	\$11,462,942	\$11,462,942	
Contingency	\$395,421	\$1,719,441	\$1,719,441	\$1,719,441	\$1,719,441	\$1,719,441	\$1,719,441	
Total Periodic Cost in FY06 Dollars	\$3,031,562	\$13,182,383	\$13,182,383	\$13,182,383	\$13,182,383	\$13,182,383	\$13,182,383	
Total Periodic Cost in Escalated Dollars	\$11,092,941	\$48,331,325	\$48,331,325	\$48,331,325	\$48,331,325	\$48,331,325	\$48,331,325	
Total Periodic Cost in Net Present Value	\$635,049	\$2,682,015	\$2,682,015	\$2,682,015	\$2,682,015	\$2,682,015	\$2,682,015	
TOTAL PROJECT COST IN 2006 DOLLARS	\$15,882,710	\$36,740,090	\$35,619,413	\$84,728,122	\$83,563,560	\$42,757,160	\$41,547,113	\$33,950,294
TOTAL PROJECT COST IN ESCALATED DOLLARS	\$58,157,100	\$110,309,171	\$112,551,166	\$177,154,037	\$202,500,915	\$118,690,641	\$124,277,598	\$199,193,462
TOTAL PROJECT COST IN NET PRESENT VALUE	\$3,293,760	\$12,228,616	\$9,038,276	\$43,100,933	\$27,547,856	\$16,099,600	\$11,329,113	\$1,417,816

Level Summaries

Project: OU 3-14 Tank Farm

DESCRIPTION	ALTERNATIVES							
	#1 Limited Action	#2a Inst Ctrls, Monitoring Containment (By 2012)	#2b Inst Ctrls, Monitoring Containment (By 2035)	#3a Inst Ctrls, Monitoring Source Removal Containment (By 2012)	#3b Inst Ctrls, Monitoring Source Removal Containment (By 2035)	#4a Inst Ctrls, Monitoring Source Treatment Containment (By 2012)	#4b Inst Ctrls, Monitoring Source Treatment Containment (By 2035)	#5 Contingent SRPA Pump & Treat for Cleanup (By 2070)
CAPITAL COST -		\$8,693,916	\$7,990,234	\$38,180,310	\$37,396,015	\$12,947,994	\$12,163,699	\$7,982,665
Construction Activities		\$7,305,812	\$6,714,482	\$32,084,294	\$31,425,223	\$10,880,667	\$10,221,596	\$6,708,122
Professional/Technical Services (Capital)		\$1,388,104	\$1,275,752	\$6,096,016	\$5,970,792	\$2,067,327	\$1,942,103	\$1,274,543
Institutional Controls (Capital)								
OPERATION AND MAINTENANCE (O&M) COSTS -	\$11,174,911	\$11,174,911	\$11,174,911	\$11,174,911	\$11,174,911	\$11,174,911	\$11,174,911	\$20,520,325
O&M Activities	\$6,962,289	\$6,962,289	\$6,962,289	\$6,962,289	\$6,962,289	\$6,962,289	\$6,962,289	
Surveillance and Monitoring	\$3,036,346	\$3,036,346	\$3,036,346	\$3,036,346	\$3,036,346	\$3,036,346	\$3,036,346	\$20,520,325
Institutional Controls (O&M)	\$1,176,276	\$1,176,276	\$1,176,276	\$1,176,276	\$1,176,276	\$1,176,276	\$1,176,276	
PERIODIC COSTS -	\$2,636,141	\$11,462,942	\$11,462,942	\$11,462,942	\$11,462,942	\$11,462,942	\$11,462,942	
Construction/O&M Activities (Periodic)	\$295,065	\$9,121,866	\$9,121,866	\$9,121,866	\$9,121,866	\$9,121,866	\$9,121,866	
Professional/Technical Services (Periodic)	\$811,386	\$811,386	\$811,386	\$811,386	\$811,386	\$811,386	\$811,386	
Update Institutional Controls Plan (Periodic)	\$1,529,690	\$1,529,690	\$1,529,690	\$1,529,690	\$1,529,690	\$1,529,690	\$1,529,690	
TOTAL PROJECT COST IN FY06 Dollars	\$13,811,052	\$31,331,769	\$30,628,087	\$60,818,163	\$60,033,868	\$35,585,847	\$34,801,552	\$28,502,990

For contingencies, see "Summary Cost Estimate Sheet"

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#1 Limited Action				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Current 2006 Dollars		Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	
Year	Escalation Rate	Discount Rate	Year	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
			2004									
			2005									
0	1.000	1.000	2006	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0
1	1.027	0.935	2007	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.054	0.873	2008	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.079	0.816	2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.105	0.763	2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5	1.131	0.713	2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	1.159	0.666	2012	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	1.186	0.623	2013	\$0	\$0	\$0	\$234,667	\$278,400	\$173,374	\$67,062	\$79,560	\$49,546
8	1.215	0.582	2014	\$0	\$0	\$0	\$106,937	\$129,911	\$75,609	\$21,985	\$26,708	\$15,544
9	1.244	0.544	2015	\$0	\$0	\$0	\$234,667	\$291,924	\$158,787	\$67,062	\$83,425	\$45,377
10	1.274	0.508	2016	\$0	\$0	\$0	\$106,937	\$136,221	\$69,248	\$21,985	\$28,006	\$14,237
11	1.304	0.475	2017	\$0	\$0	\$0	\$106,937	\$139,491	\$66,271	\$21,985	\$28,678	\$13,625
12	1.336	0.444	2018	\$0	\$0	\$0	\$106,937	\$142,839	\$63,422	\$21,985	\$29,366	\$13,039
13	1.368	0.415	2019	\$0	\$0	\$0	\$106,937	\$146,267	\$60,695	\$21,985	\$30,071	\$12,478
14	1.401	0.388	2020	\$0	\$0	\$0	\$234,667	\$328,677	\$127,467	\$67,062	\$93,928	\$36,427
15	1.434	0.362	2021	\$0	\$0	\$0	\$106,937	\$153,372	\$55,589	\$21,985	\$31,531	\$11,428
16	1.469	0.339	2022	\$0	\$0	\$0	\$106,937	\$157,053	\$53,199	\$21,985	\$32,288	\$10,937
17	1.504	0.317	2023	\$0	\$0	\$0	\$106,937	\$160,822	\$50,912	\$21,985	\$33,063	\$10,467
18	1.540	0.296	2024	\$0	\$0	\$0	\$106,937	\$164,682	\$48,723	\$21,985	\$33,857	\$10,017
19	1.577	0.277	2025	\$0	\$0	\$0	\$234,667	\$370,057	\$102,324	\$67,062	\$105,753	\$29,242
20	1.615	0.258	2026	\$0	\$0	\$0	\$106,937	\$172,681	\$44,624	\$21,985	\$35,501	\$9,174
21	1.654	0.242	2027	\$0	\$0	\$0	\$106,937	\$176,826	\$42,706	\$21,985	\$36,353	\$8,780
22	1.693	0.226	2028	\$0	\$0	\$0	\$106,937	\$181,069	\$40,870	\$21,985	\$37,226	\$8,402
23	1.734	0.211	2029	\$0	\$0	\$0	\$106,937	\$185,415	\$39,113	\$21,985	\$38,119	\$8,041
24	1.775	0.197	2030	\$0	\$0	\$0	\$234,667	\$416,648	\$82,141	\$67,062	\$119,068	\$23,474
25	1.818	0.184	2031	\$0	\$0	\$0	\$106,937	\$194,422	\$35,822	\$21,985	\$39,971	\$7,365

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#1 Limited Action				
LIFE CYCLE COST ANALYSIS												
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Escalation Rate	Discount Rate		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
26	1.862	0.172	2032	\$0	\$0	\$0	\$106,937	\$199,088	\$34,282	\$21,985	\$40,930	\$7,048
27	1.906	0.161	2033	\$0	\$0	\$0	\$106,937	\$203,866	\$32,808	\$21,985	\$41,912	\$6,745
28	1.952	0.150	2034	\$0	\$0	\$0	\$106,937	\$208,759	\$31,398	\$21,985	\$42,918	\$6,455
29	1.999	0.141	2035	\$0	\$0	\$0	\$234,667	\$469,103	\$65,939	\$67,062	\$134,058	\$18,844
30	2.047	0.131	2036	\$0	\$0	\$0	\$106,937	\$218,899	\$28,756	\$21,985	\$45,003	\$5,912
31	2.096	0.123	2037	\$0	\$0	\$0	\$106,937	\$224,153	\$27,520	\$21,985	\$46,083	\$5,658
32	2.146	0.115	2038	\$0	\$0	\$0	\$106,937	\$229,533	\$26,337	\$21,985	\$47,189	\$5,415
33	2.198	0.107	2039	\$0	\$0	\$0	\$106,937	\$235,041	\$25,205	\$21,985	\$48,322	\$5,182
34	2.251	0.100	2040	\$0	\$0	\$0	\$234,667	\$528,164	\$52,932	\$67,062	\$150,936	\$15,127
35	2.305	0.094	2041	\$0	\$0	\$0	\$106,937	\$246,459	\$23,084	\$21,985	\$50,669	\$4,746
36	2.360	0.088	2042	\$0	\$0	\$0	\$106,937	\$252,374	\$22,092	\$21,985	\$51,885	\$4,542
37	2.417	0.082	2043	\$0	\$0	\$0	\$106,937	\$258,431	\$21,142	\$21,985	\$53,130	\$4,347
38	2.475	0.076	2044	\$0	\$0	\$0	\$106,937	\$264,633	\$20,233	\$21,985	\$54,405	\$4,160
39	2.534	0.071	2045	\$0	\$0	\$0	\$234,667	\$594,659	\$42,491	\$67,062	\$169,939	\$12,143
40	2.595	0.067	2046	\$0	\$0	\$0	\$106,937	\$277,488	\$18,531	\$21,985	\$57,048	\$3,810
41	2.657	0.062	2047	\$0	\$0	\$0	\$106,937	\$284,148	\$17,734	\$21,985	\$58,417	\$3,646
42	2.721	0.058	2048	\$0	\$0	\$0	\$106,937	\$290,967	\$16,972	\$21,985	\$59,819	\$3,489
43	2.786	0.055	2049	\$0	\$0	\$0	\$106,937	\$297,950	\$16,242	\$21,985	\$61,255	\$3,339
44	2.853	0.051	2050	\$0	\$0	\$0	\$234,667	\$669,527	\$34,110	\$67,062	\$191,334	\$9,748
45	2.922	0.048	2051	\$0	\$0	\$0	\$106,937	\$312,424	\$14,876	\$21,985	\$64,231	\$3,058
46	2.992	0.044	2052	\$0	\$0	\$0	\$106,937	\$319,922	\$14,236	\$21,985	\$65,772	\$2,927
47	3.063	0.042	2053	\$0	\$0	\$0	\$106,937	\$327,600	\$13,624	\$21,985	\$67,351	\$2,801
48	3.137	0.039	2054	\$0	\$0	\$0	\$106,937	\$335,462	\$13,038	\$21,985	\$68,967	\$2,681
49	3.212	0.036	2055	\$0	\$0	\$0	\$234,667	\$753,820	\$27,382	\$67,062	\$215,423	\$7,825
50	3.289	0.034	2056	\$0	\$0	\$0	\$106,937	\$351,758	\$11,941	\$21,985	\$72,317	\$2,455
51	3.368	0.032	2057	\$0	\$0	\$0	\$106,937	\$360,200	\$11,428	\$21,985	\$74,053	\$2,349
52	3.449	0.030	2058	\$0	\$0	\$0	\$106,937	\$368,845	\$10,937	\$21,985	\$75,830	\$2,248
53	3.532	0.028	2059	\$0	\$0	\$0	\$106,937	\$377,697	\$10,467	\$21,985	\$77,650	\$2,152

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#1 Limited Action				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
54	3.617	0.026	2060	\$0	\$0	\$0	\$234,667	\$848,726	\$21,981	\$67,062	\$242,545	\$6,282
55	3.704	0.024	2061	\$0	\$0	\$0	\$106,937	\$396,044	\$9,586	\$21,985	\$81,422	\$1,971
56	3.792	0.023	2062	\$0	\$0	\$0	\$106,937	\$405,549	\$9,174	\$21,985	\$83,376	\$1,886
57	3.883	0.021	2063	\$0	\$0	\$0	\$106,937	\$415,282	\$8,779	\$21,985	\$85,377	\$1,805
58	3.977	0.020	2064	\$0	\$0	\$0	\$106,937	\$425,249	\$8,402	\$21,985	\$87,426	\$1,727
59	4.072	0.018	2065	\$0	\$0	\$0	\$234,667	\$955,581	\$17,645	\$67,062	\$273,081	\$5,043
60	4.170	0.017	2066	\$0	\$0	\$0	\$106,937	\$445,906	\$7,695	\$21,985	\$91,673	\$1,582
61	4.270	0.016	2067	\$0	\$0	\$0	\$106,937	\$456,608	\$7,364	\$21,985	\$93,873	\$1,514
62	4.372	0.015	2068	\$0	\$0	\$0	\$106,937	\$467,566	\$7,048	\$21,985	\$96,126	\$1,449
63	4.477	0.014	2069	\$0	\$0	\$0	\$106,937	\$478,788	\$6,745	\$21,985	\$98,433	\$1,387
64	4.585	0.013	2070	\$0	\$0	\$0	\$234,667	\$1,075,888	\$14,165	\$67,062	\$307,462	\$4,048
65	4.695	0.012	2071	\$0	\$0	\$0	\$106,937	\$502,045	\$6,177	\$21,985	\$103,215	\$1,270
66	4.807	0.011	2072	\$0	\$0	\$0	\$106,937	\$514,095	\$5,912	\$21,985	\$105,692	\$1,215
67	4.923	0.011	2073	\$0	\$0	\$0	\$106,937	\$526,433	\$5,658	\$21,985	\$108,228	\$1,163
68	5.041	0.010	2074	\$0	\$0	\$0	\$106,937	\$539,067	\$5,414	\$21,985	\$110,826	\$1,113
69	5.162	0.009	2075	\$0	\$0	\$0	\$234,667	\$1,211,342	\$11,371	\$67,062	\$346,172	\$3,249
70	5.286	0.009	2076	\$0	\$0	\$0	\$106,937	\$565,253	\$4,959	\$21,985	\$116,209	\$1,019
71	5.413	0.008	2077	\$0	\$0	\$0	\$106,937	\$578,819	\$4,746	\$21,985	\$118,998	\$976
72	5.543	0.008	2078	\$0	\$0	\$0	\$106,937	\$592,711	\$4,542	\$21,985	\$121,854	\$934
73	5.676	0.007	2079	\$0	\$0	\$0	\$106,937	\$606,936	\$4,346	\$21,985	\$124,779	\$894
74	5.812	0.007	2080	\$0	\$0	\$0	\$234,667	\$1,363,850	\$9,128	\$67,062	\$389,755	\$2,609
75	5.951	0.006	2081	\$0	\$0	\$0	\$106,937	\$636,418	\$3,981	\$21,985	\$130,840	\$818
76	6.094	0.006	2082	\$0	\$0	\$0	\$106,937	\$651,692	\$3,810	\$21,985	\$133,980	\$783
77	6.240	0.005	2083	\$0	\$0	\$0	\$106,937	\$667,333	\$3,646	\$21,985	\$137,196	\$750
78	6.390	0.005	2084	\$0	\$0	\$0	\$106,937	\$683,349	\$3,489	\$21,985	\$140,489	\$717
79	6.544	0.005	2085	\$0	\$0	\$0	\$234,667	\$1,535,559	\$7,327	\$67,062	\$438,825	\$2,094
80	6.701	0.004	2086	\$0	\$0	\$0	\$106,937	\$716,543	\$3,196	\$21,985	\$147,313	\$657
81	6.861	0.004	2087	\$0	\$0	\$0	\$106,937	\$733,740	\$3,058	\$21,985	\$150,848	\$629

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#1 Limited Action				
			LIFE CYCLE COST ANALYSIS									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
82	7.026	0.004	2088	\$0	\$0	\$0	\$106,937	\$751,350	\$2,927	\$21,985	\$154,469	\$602
83	7.195	0.004	2089	\$0	\$0	\$0	\$106,937	\$769,382	\$2,801	\$21,985	\$158,176	\$576
84	7.367	0.003	2090	\$0	\$0	\$0	\$234,667	\$1,728,886	\$5,882	\$67,062	\$494,073	\$1,681
85	7.544	0.003	2091	\$0	\$0	\$0	\$106,937	\$806,756	\$2,565	\$21,985	\$165,860	\$527
86	7.725	0.003	2092	\$0	\$0	\$0	\$106,937	\$826,118	\$2,455	\$21,985	\$169,840	\$505
87	7.911	0.003	2093	\$0	\$0	\$0	\$106,937	\$845,945	\$2,349	\$21,985	\$173,916	\$483
88	8.101	0.003	2094	\$0	\$0	\$0	\$106,937	\$866,248	\$2,248	\$21,985	\$178,090	\$462
89	8.295	0.002	2095	\$0	\$0	\$0	\$234,667	\$1,946,552	\$4,722	\$67,062	\$556,276	\$1,349
90	8.494	0.002	2096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
91	8.698	0.002	2097	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
92	8.907	0.002	2098	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
93	9.120	0.002	2099	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
94	9.339	0.002	2100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
95	9.563	0.002	2101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96	9.793	0.002	2102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
97	10.028	0.001	2103	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
98	10.269	0.001	2104	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
99	10.515	0.001	2105	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
100	10.767	0.001	2106	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
101	11.026	0.001	2107		\$0	\$0		\$0	\$0		\$0	\$0
102	11.291	0.001	2108									
103	11.561	0.001	2109									
104	11.839	0.001	2110									
105	12.123	0.001	2111									
106	12.414	0.001	2112									
107	12.712	0.001	2113									
108	13.017	0.001	2114									
109	13.329	0.001	2115									

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#1 Limited Action				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	Escalation Rate	Discount Rate	Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST		
Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%					Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
110	13.649	0.001	2116									
111	13.977	0.001	2117									
112	14.312	0.001	2118									
113	14.656	0.000	2119									
114	15.008	0.000	2120									
115	15.368	0.000	2121									
116	15.737	0.000	2122									
117	16.114	0.000	2123									
			SUBTOTALS	\$0	\$0	\$0	\$11,174,911	\$40,925,356	\$2,311,922	\$2,636,141	\$9,646,036	\$552,217
			TOTALS	13,811,052	50,571,391	2,864,139						
Escalation rates were taken from "http://oecm.energy.gov/Portals/2/2004Rates.pdf," Office of Engineering and Construction Management, US Department of Energy (DOE).												
Discount rates were taken from "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study," US Army Corps of Engineers (USACE)/US Environmental Protection Agency (EPA).												
These numbers do not include contingency. For contingency, see "Summary Cost Estimate Sheet"												

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#2a Institutional Controls, Monitoring and Containment (2012)					
				CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST			
Year	Escalation Rate	Discount Rate		Year	Current 2006 Dollars	Escalated Dollars	Net Present Value	Current 2006 Dollars	Escalated Dollars	Net Present Value	Current 2006 Dollars	Escalated Dollars	Net Present Value
			2004										
			2005										
0	1.000	1.000	2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1	1.027	0.935	2007	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.054	0.873	2008	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.079	0.816	2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.105	0.763	2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5	1.131	0.713	2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	1.159	0.666	2012	\$6,520,438	\$7,554,303	\$5,033,751	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	1.186	0.623	2013	\$0	\$0	\$0	\$234,667	\$278,400	\$173,374	\$173,409	\$205,726	\$128,116	
8	1.215	0.582	2014	\$0	\$0	\$0	\$106,937	\$129,911	\$75,609	\$128,332	\$155,902	\$90,737	
9	1.244	0.544	2015	\$0	\$0	\$0	\$234,667	\$291,924	\$158,787	\$173,409	\$215,719	\$117,337	
10	1.274	0.508	2016	\$0	\$0	\$0	\$106,937	\$136,221	\$69,248	\$128,332	\$163,475	\$83,103	
11	1.304	0.475	2017	\$0	\$0	\$0	\$106,937	\$139,491	\$66,271	\$128,332	\$167,399	\$79,530	
12	1.336	0.444	2018	\$0	\$0	\$0	\$106,937	\$142,839	\$63,422	\$128,332	\$171,416	\$76,111	
13	1.368	0.415	2019	\$0	\$0	\$0	\$106,937	\$146,267	\$60,695	\$128,332	\$175,530	\$72,839	
14	1.401	0.388	2020	\$0	\$0	\$0	\$234,667	\$328,677	\$127,467	\$173,409	\$242,878	\$94,192	
15	1.434	0.362	2021	\$0	\$0	\$0	\$106,937	\$153,372	\$55,589	\$128,332	\$184,057	\$66,711	
16	1.469	0.339	2022	\$0	\$0	\$0	\$106,937	\$157,053	\$53,199	\$128,332	\$188,474	\$63,843	
17	1.504	0.317	2023	\$0	\$0	\$0	\$106,937	\$160,822	\$50,912	\$128,332	\$192,998	\$61,098	
18	1.540	0.296	2024	\$0	\$0	\$0	\$106,937	\$164,682	\$48,723	\$128,332	\$197,630	\$58,471	
19	1.577	0.277	2025	\$0	\$0	\$0	\$234,667	\$370,057	\$102,324	\$173,409	\$273,457	\$75,613	
20	1.615	0.258	2026	\$0	\$0	\$0	\$106,937	\$172,681	\$44,624	\$128,332	\$207,230	\$53,552	
21	1.654	0.242	2027	\$0	\$0	\$0	\$106,937	\$176,826	\$42,706	\$128,332	\$212,203	\$51,250	
22	1.693	0.226	2028	\$0	\$0	\$0	\$106,937	\$181,069	\$40,870	\$128,332	\$217,296	\$49,047	
23	1.734	0.211	2029	\$0	\$0	\$0	\$106,937	\$185,415	\$39,113	\$128,332	\$222,511	\$46,938	
24	1.775	0.197	2030	\$0	\$0	\$0	\$234,667	\$416,648	\$82,141	\$173,409	\$307,885	\$60,698	
25	1.818	0.184	2031	\$0	\$0	\$0	\$106,937	\$194,422	\$35,822	\$128,332	\$233,320	\$42,989	

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#2a Institutional Controls, Monitoring and Containment (2012)				
				CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Escalation Rate	Discount Rate		Year	Current 2006 Dollars	Escalated Dollars	Net Present Value	Current 2006 Dollars	Escalated Dollars	Net Present Value	Current 2006 Dollars	Escalated Dollars
26	1.862	0.172	2032	\$0	\$0	\$0	\$106,937	\$199,088	\$34,282	\$128,332	\$238,920	\$41,141
27	1.906	0.161	2033	\$0	\$0	\$0	\$106,937	\$203,866	\$32,808	\$128,332	\$244,654	\$39,372
28	1.952	0.150	2034	\$0	\$0	\$0	\$106,937	\$208,759	\$31,398	\$128,332	\$250,525	\$37,680
29	1.999	0.141	2035	\$2,173,479	\$4,555,878	\$559,339	\$234,667	\$469,103	\$65,939	\$173,409	\$346,648	\$48,726
30	2.047	0.131	2036	\$0	\$0	\$0	\$106,937	\$218,899	\$28,756	\$128,332	\$262,695	\$34,509
31	2.096	0.123	2037	\$0	\$0	\$0	\$106,937	\$224,153	\$27,520	\$128,332	\$269,000	\$33,026
32	2.146	0.115	2038	\$0	\$0	\$0	\$106,937	\$229,533	\$26,337	\$128,332	\$275,456	\$31,606
33	2.198	0.107	2039	\$0	\$0	\$0	\$106,937	\$235,041	\$25,205	\$128,332	\$282,066	\$30,247
34	2.251	0.100	2040	\$0	\$0	\$0	\$234,667	\$528,164	\$52,932	\$173,409	\$390,291	\$39,115
35	2.305	0.094	2041	\$0	\$0	\$0	\$106,937	\$246,459	\$23,084	\$128,332	\$295,768	\$27,703
36	2.360	0.088	2042	\$0	\$0	\$0	\$106,937	\$252,374	\$22,092	\$128,332	\$302,867	\$26,512
37	2.417	0.082	2043	\$0	\$0	\$0	\$106,937	\$258,431	\$21,142	\$128,332	\$310,135	\$25,372
38	2.475	0.076	2044	\$0	\$0	\$0	\$106,937	\$264,633	\$20,233	\$128,332	\$317,579	\$24,281
39	2.534	0.071	2045	\$0	\$0	\$0	\$234,667	\$594,659	\$42,491	\$173,409	\$439,428	\$31,399
40	2.595	0.067	2046	\$0	\$0	\$0	\$106,937	\$277,488	\$18,531	\$128,332	\$333,005	\$22,238
41	2.657	0.062	2047	\$0	\$0	\$0	\$106,937	\$284,148	\$17,734	\$128,332	\$340,997	\$21,282
42	2.721	0.058	2048	\$0	\$0	\$0	\$106,937	\$290,967	\$16,972	\$128,332	\$349,181	\$20,367
43	2.786	0.055	2049	\$0	\$0	\$0	\$106,937	\$297,950	\$16,242	\$128,332	\$357,562	\$19,492
44	2.853	0.051	2050	\$0	\$0	\$0	\$234,667	\$669,527	\$34,110	\$173,409	\$494,752	\$25,206
45	2.922	0.048	2051	\$0	\$0	\$0	\$106,937	\$312,424	\$14,876	\$128,332	\$374,931	\$17,852
46	2.992	0.044	2052	\$0	\$0	\$0	\$106,937	\$319,922	\$14,236	\$128,332	\$383,929	\$17,084
47	3.063	0.042	2053	\$0	\$0	\$0	\$106,937	\$327,600	\$13,624	\$128,332	\$393,143	\$16,350
48	3.137	0.039	2054	\$0	\$0	\$0	\$106,937	\$335,462	\$13,038	\$128,332	\$402,579	\$15,647
49	3.212	0.036	2055	\$0	\$0	\$0	\$234,667	\$753,820	\$27,382	\$173,409	\$557,041	\$20,234
50	3.289	0.034	2056	\$0	\$0	\$0	\$106,937	\$351,758	\$11,941	\$128,332	\$422,134	\$14,331
51	3.368	0.032	2057	\$0	\$0	\$0	\$106,937	\$360,200	\$11,428	\$128,332	\$432,266	\$13,714
52	3.449	0.030	2058	\$0	\$0	\$0	\$106,937	\$368,845	\$10,937	\$128,332	\$442,640	\$13,125
53	3.532	0.028	2059	\$0	\$0	\$0	\$106,937	\$377,697	\$10,467	\$128,332	\$453,263	\$12,561

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#2a Institutional Controls, Monitoring and Containment (2012)				
				CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Escalation Rate	Discount Rate	Year	Current 2006 Dollars	Escalated Dollars	Net Present Value	Current 2006 Dollars	Escalated Dollars	Net Present Value	Current 2006 Dollars	Escalated Dollars	Net Present Value
54	3.617	0.026	2060	\$0	\$0	\$0	\$234,667	\$848,726	\$21,981	\$173,409	\$627,173	\$16,243
55	3.704	0.024	2061	\$0	\$0	\$0	\$106,937	\$396,044	\$9,586	\$128,332	\$475,281	\$11,504
56	3.792	0.023	2062	\$0	\$0	\$0	\$106,937	\$405,549	\$9,174	\$128,332	\$486,688	\$11,009
57	3.883	0.021	2063	\$0	\$0	\$0	\$106,937	\$415,282	\$8,779	\$128,332	\$498,368	\$10,536
58	3.977	0.020	2064	\$0	\$0	\$0	\$106,937	\$425,249	\$8,402	\$128,332	\$510,329	\$10,083
59	4.072	0.018	2065	\$0	\$0	\$0	\$234,667	\$955,581	\$17,645	\$173,409	\$706,134	\$13,039
60	4.170	0.017	2066	\$0	\$0	\$0	\$106,937	\$445,906	\$7,695	\$128,332	\$535,119	\$9,235
61	4.270	0.016	2067	\$0	\$0	\$0	\$106,937	\$456,608	\$7,364	\$128,332	\$547,962	\$8,838
62	4.372	0.015	2068	\$0	\$0	\$0	\$106,937	\$467,566	\$7,048	\$128,332	\$561,113	\$8,458
63	4.477	0.014	2069	\$0	\$0	\$0	\$106,937	\$478,788	\$6,745	\$128,332	\$574,579	\$8,094
64	4.585	0.013	2070	\$0	\$0	\$0	\$234,667	\$1,075,888	\$14,165	\$173,409	\$795,036	\$10,467
65	4.695	0.012	2071	\$0	\$0	\$0	\$106,937	\$502,045	\$6,177	\$128,332	\$602,490	\$7,413
66	4.807	0.011	2072	\$0	\$0	\$0	\$106,937	\$514,095	\$5,912	\$128,332	\$616,950	\$7,094
67	4.923	0.011	2073	\$0	\$0	\$0	\$106,937	\$526,433	\$5,658	\$128,332	\$631,757	\$6,789
68	5.041	0.010	2074	\$0	\$0	\$0	\$106,937	\$539,067	\$5,414	\$128,332	\$646,919	\$6,498
69	5.162	0.009	2075	\$0	\$0	\$0	\$234,667	\$1,211,342	\$11,371	\$173,409	\$895,131	\$8,402
70	5.286	0.009	2076	\$0	\$0	\$0	\$106,937	\$565,253	\$4,959	\$128,332	\$678,344	\$5,951
71	5.413	0.008	2077	\$0	\$0	\$0	\$106,937	\$578,819	\$4,746	\$128,332	\$694,624	\$5,695
72	5.543	0.008	2078	\$0	\$0	\$0	\$106,937	\$592,711	\$4,542	\$128,332	\$711,295	\$5,450
73	5.676	0.007	2079	\$0	\$0	\$0	\$106,937	\$606,936	\$4,346	\$128,332	\$728,366	\$5,216
74	5.812	0.007	2080	\$0	\$0	\$0	\$234,667	\$1,363,850	\$9,128	\$173,409	\$1,007,828	\$6,745
75	5.951	0.006	2081	\$0	\$0	\$0	\$106,937	\$636,418	\$3,981	\$128,332	\$763,747	\$4,777
76	6.094	0.006	2082	\$0	\$0	\$0	\$106,937	\$651,692	\$3,810	\$128,332	\$782,077	\$4,572
77	6.240	0.005	2083	\$0	\$0	\$0	\$106,937	\$667,333	\$3,646	\$128,332	\$800,847	\$4,375
78	6.390	0.005	2084	\$0	\$0	\$0	\$106,937	\$683,349	\$3,489	\$128,332	\$820,067	\$4,187
79	6.544	0.005	2085	\$0	\$0	\$0	\$234,667	\$1,535,559	\$7,327	\$173,409	\$1,134,713	\$5,415
80	6.701	0.004	2086	\$0	\$0	\$0	\$106,937	\$716,543	\$3,196	\$128,332	\$859,903	\$3,835

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#2a Institutional Controls, Monitoring and Containment (2012)				
				CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Escalation Rate	Discount Rate		Year	Current 2006 Dollars	Escalated Dollars	Net Present Value	Current 2006 Dollars	Escalated Dollars	Net Present Value	Current 2006 Dollars	Escalated Dollars
81	6.861	0.004	2087	\$0	\$0	\$0	\$106,937	\$733,740	\$3,058	\$128,332	\$880,541	\$3,670
82	7.026	0.004	2088	\$0	\$0	\$0	\$106,937	\$751,350	\$2,927	\$128,332	\$901,673	\$3,512
83	7.195	0.004	2089	\$0	\$0	\$0	\$106,937	\$769,382	\$2,801	\$128,332	\$923,314	\$3,361
84	7.367	0.003	2090	\$0	\$0	\$0	\$234,667	\$1,728,886	\$5,882	\$173,409	\$1,277,573	\$4,347
85	7.544	0.003	2091	\$0	\$0	\$0	\$106,937	\$806,756	\$2,565	\$128,332	\$968,165	\$3,078
86	7.725	0.003	2092	\$0	\$0	\$0	\$106,937	\$826,118	\$2,455	\$128,332	\$991,400	\$2,946
87	7.911	0.003	2093	\$0	\$0	\$0	\$106,937	\$845,945	\$2,349	\$128,332	\$1,015,194	\$2,819
88	8.101	0.003	2094	\$0	\$0	\$0	\$106,937	\$866,248	\$2,248	\$128,332	\$1,039,559	\$2,698
89	8.295	0.002	2095	\$0	\$0	\$0	\$234,667	\$1,946,552	\$4,722	\$173,409	\$1,438,420	\$3,489
90	8.494	0.002	2096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
91	8.698	0.002	2097	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
92	8.907	0.002	2098	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
93	9.120	0.002	2099	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
94	9.339	0.002	2100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
95	9.563	0.002	2101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96	9.793	0.002	2102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
97	10.028	0.001	2103	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
98	10.269	0.001	2104	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
99	10.515	0.001	2105	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
100	10.767	0.001	2106	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
101	11.026	0.001	2107		\$0	\$0			\$0			\$0
102	11.291	0.001	2108									
103	11.561	0.001	2109									
104	11.839	0.001	2110									
105	12.123	0.001	2111									
106	12.414	0.001	2112									
107	12.712	0.001	2113									
108	13.017	0.001	2114									

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#2a Institutional Controls, Monitoring and Containment (2012)					
				CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST			
Year	Escalation Rate	Discount Rate		Year	Current 2006 Dollars	Escalated Dollars	Net Present Value	Current 2006 Dollars	Escalated Dollars	Net Present Value	Current 2006 Dollars	Escalated Dollars	Net Present Value
109	13.329	0.001	2115										
110	13.649	0.001	2116										
111	13.977	0.001	2117										
112	14.312	0.001	2118										
113	14.656	0.000	2119										
114	15.008	0.000	2120										
115	15.368	0.000	2121										
116	15.737	0.000	2122										
117	16.114	0.000	2123										
			SUBTOTALS	\$8,693,917	\$12,110,180	\$5,593,090	\$11,174,911	\$40,925,356	\$2,311,922	\$11,462,942	\$42,027,239	\$2,332,187	
			TOTALS	31,331,770	95,062,775	10,237,199							
Escalation rates were taken from "http://oecm.energy.gov/Portals/2/2004Rates.pdf," Office of Engineering and Construction Management, US Department of Energy (DOE).													
Discount rates were taken from "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study," US Army Corps of Engineers (USACE)/US Environmental Protection Agency (EPA).													
These numbers do not include contingency. For contingency, see "Summary Cost Estimate Sheet"													

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#2b Institutional Controls, Monitoring and Containment (2035)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Current 2006 Dollars	Escalated Dollars		Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%		
Escalation Rate Discount Rate			2004									
			2005									
0	1.000	1.000	2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1	1.027	0.935	2007	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2	1.054	0.873	2008	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
3	1.079	0.816	2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
4	1.105	0.763	2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5	1.131	0.713	2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
6	1.159	0.666	2012	\$1,997,558	\$2,314,286	\$1,542,107	\$0	\$0	\$0	\$0	\$0	
7	1.186	0.623	2013	\$0	\$0	\$0	\$234,667	\$278,400	\$173,374	\$173,409	\$205,726	\$128,116
8	1.215	0.582	2014	\$0	\$0	\$0	\$106,937	\$129,911	\$75,609	\$128,332	\$155,902	\$90,737
9	1.244	0.544	2015	\$0	\$0	\$0	\$234,667	\$291,924	\$158,787	\$173,409	\$215,719	\$117,337
10	1.274	0.508	2016	\$0	\$0	\$0	\$106,937	\$136,221	\$69,248	\$128,332	\$163,475	\$83,103
11	1.304	0.475	2017	\$0	\$0	\$0	\$106,937	\$139,491	\$66,271	\$128,332	\$167,399	\$79,530
12	1.336	0.444	2018	\$0	\$0	\$0	\$106,937	\$142,839	\$63,422	\$128,332	\$171,416	\$76,111
13	1.368	0.415	2019	\$0	\$0	\$0	\$106,937	\$146,267	\$60,695	\$128,332	\$175,530	\$72,839
14	1.401	0.388	2020	\$0	\$0	\$0	\$234,667	\$328,677	\$127,467	\$173,409	\$242,878	\$94,192
15	1.434	0.362	2021	\$0	\$0	\$0	\$106,937	\$153,372	\$55,589	\$128,332	\$184,057	\$66,711
16	1.469	0.339	2022	\$0	\$0	\$0	\$106,937	\$157,053	\$53,199	\$128,332	\$188,474	\$63,843
17	1.504	0.317	2023	\$0	\$0	\$0	\$106,937	\$160,822	\$50,912	\$128,332	\$192,998	\$61,098
18	1.540	0.296	2024	\$0	\$0	\$0	\$106,937	\$164,682	\$48,723	\$128,332	\$197,630	\$58,471
19	1.577	0.277	2025	\$0	\$0	\$0	\$234,667	\$370,057	\$102,324	\$173,409	\$273,457	\$75,613
20	1.615	0.258	2026	\$0	\$0	\$0	\$106,937	\$172,681	\$44,624	\$128,332	\$207,230	\$53,552
21	1.654	0.242	2027	\$0	\$0	\$0	\$106,937	\$176,826	\$42,706	\$128,332	\$212,203	\$51,250
22	1.693	0.226	2028	\$0	\$0	\$0	\$106,937	\$181,069	\$40,870	\$128,332	\$217,296	\$49,047
23	1.734	0.211	2029	\$0	\$0	\$0	\$106,937	\$185,415	\$39,113	\$128,332	\$222,511	\$46,938
24	1.775	0.197	2030	\$0	\$0	\$0	\$234,667	\$416,648	\$82,141	\$173,409	\$307,885	\$60,698
25	1.818	0.184	2031	\$0	\$0	\$0	\$106,937	\$194,422	\$35,822	\$128,332	\$233,320	\$42,989

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#2b Institutional Controls, Monitoring and Containment (2035)				
			LIFE CYCLE COST ANALYSIS									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
Year	Escalation Rate	Discount Rate	Year	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
26	1.862	0.172	2032	\$0	\$0	\$0	\$106,937	\$199,088	\$34,282	\$128,332	\$238,920	\$41,141
27	1.906	0.161	2033	\$0	\$0	\$0	\$106,937	\$203,866	\$32,808	\$128,332	\$244,654	\$39,372
28	1.952	0.150	2034	\$0	\$0	\$0	\$106,937	\$208,759	\$31,398	\$128,332	\$250,525	\$37,680
29	1.999	0.141	2035	\$5,992,675	\$12,561,377	\$1,542,198	\$234,667	\$469,103	\$65,939	\$173,409	\$346,648	\$48,726
30	2.047	0.131	2036	\$0	\$0	\$0	\$106,937	\$218,899	\$28,756	\$128,332	\$262,695	\$34,509
31	2.096	0.123	2037	\$0	\$0	\$0	\$106,937	\$224,153	\$27,520	\$128,332	\$269,000	\$33,026
32	2.146	0.115	2038	\$0	\$0	\$0	\$106,937	\$229,533	\$26,337	\$128,332	\$275,456	\$31,606
33	2.198	0.107	2039	\$0	\$0	\$0	\$106,937	\$235,041	\$25,205	\$128,332	\$282,066	\$30,247
34	2.251	0.100	2040	\$0	\$0	\$0	\$234,667	\$528,164	\$52,932	\$173,409	\$390,291	\$39,115
35	2.305	0.094	2041	\$0	\$0	\$0	\$106,937	\$246,459	\$23,084	\$128,332	\$295,768	\$27,703
36	2.360	0.088	2042	\$0	\$0	\$0	\$106,937	\$252,374	\$22,092	\$128,332	\$302,867	\$26,512
37	2.417	0.082	2043	\$0	\$0	\$0	\$106,937	\$258,431	\$21,142	\$128,332	\$310,135	\$25,372
38	2.475	0.076	2044	\$0	\$0	\$0	\$106,937	\$264,633	\$20,233	\$128,332	\$317,579	\$24,281
39	2.534	0.071	2045	\$0	\$0	\$0	\$234,667	\$594,659	\$42,491	\$173,409	\$439,428	\$31,399
40	2.595	0.067	2046	\$0	\$0	\$0	\$106,937	\$277,488	\$18,531	\$128,332	\$333,005	\$22,238
41	2.657	0.062	2047	\$0	\$0	\$0	\$106,937	\$284,148	\$17,734	\$128,332	\$340,997	\$21,282
42	2.721	0.058	2048	\$0	\$0	\$0	\$106,937	\$290,967	\$16,972	\$128,332	\$349,181	\$20,367
43	2.786	0.055	2049	\$0	\$0	\$0	\$106,937	\$297,950	\$16,242	\$128,332	\$357,562	\$19,492
44	2.853	0.051	2050	\$0	\$0	\$0	\$234,667	\$669,527	\$34,110	\$173,409	\$494,752	\$25,206
45	2.922	0.048	2051	\$0	\$0	\$0	\$106,937	\$312,424	\$14,876	\$128,332	\$374,931	\$17,852
46	2.992	0.044	2052	\$0	\$0	\$0	\$106,937	\$319,922	\$14,236	\$128,332	\$383,929	\$17,084
47	3.063	0.042	2053	\$0	\$0	\$0	\$106,937	\$327,600	\$13,624	\$128,332	\$393,143	\$16,350
48	3.137	0.039	2054	\$0	\$0	\$0	\$106,937	\$335,462	\$13,038	\$128,332	\$402,579	\$15,647
49	3.212	0.036	2055	\$0	\$0	\$0	\$234,667	\$753,820	\$27,382	\$173,409	\$557,041	\$20,234
50	3.289	0.034	2056	\$0	\$0	\$0	\$106,937	\$351,758	\$11,941	\$128,332	\$422,134	\$14,331
51	3.368	0.032	2057	\$0	\$0	\$0	\$106,937	\$360,200	\$11,428	\$128,332	\$432,266	\$13,714
52	3.449	0.030	2058	\$0	\$0	\$0	\$106,937	\$368,845	\$10,937	\$128,332	\$442,640	\$13,125
53	3.532	0.028	2059	\$0	\$0	\$0	\$106,937	\$377,697	\$10,467	\$128,332	\$453,263	\$12,561

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#2b Institutional Controls, Monitoring and Containment (2035)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Current 2006 Dollars	Escalated Dollars		Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%		
54	3.617	0.026	2060	\$0	\$0	\$0	\$234,667	\$848,726	\$21,981	\$173,409	\$627,173	\$16,243
55	3.704	0.024	2061	\$0	\$0	\$0	\$106,937	\$396,044	\$9,586	\$128,332	\$475,281	\$11,504
56	3.792	0.023	2062	\$0	\$0	\$0	\$106,937	\$405,549	\$9,174	\$128,332	\$486,688	\$11,009
57	3.883	0.021	2063	\$0	\$0	\$0	\$106,937	\$415,282	\$8,779	\$128,332	\$498,368	\$10,536
58	3.977	0.020	2064	\$0	\$0	\$0	\$106,937	\$425,249	\$8,402	\$128,332	\$510,329	\$10,083
59	4.072	0.018	2065	\$0	\$0	\$0	\$234,667	\$955,581	\$17,645	\$173,409	\$706,134	\$13,039
60	4.170	0.017	2066	\$0	\$0	\$0	\$106,937	\$445,906	\$7,695	\$128,332	\$535,119	\$9,235
61	4.270	0.016	2067	\$0	\$0	\$0	\$106,937	\$456,608	\$7,364	\$128,332	\$547,962	\$8,838
62	4.372	0.015	2068	\$0	\$0	\$0	\$106,937	\$467,566	\$7,048	\$128,332	\$561,113	\$8,458
63	4.477	0.014	2069	\$0	\$0	\$0	\$106,937	\$478,788	\$6,745	\$128,332	\$574,579	\$8,094
64	4.585	0.013	2070	\$0	\$0	\$0	\$234,667	\$1,075,888	\$14,165	\$173,409	\$795,036	\$10,467
65	4.695	0.012	2071	\$0	\$0	\$0	\$106,937	\$502,045	\$6,177	\$128,332	\$602,490	\$7,413
66	4.807	0.011	2072	\$0	\$0	\$0	\$106,937	\$514,095	\$5,912	\$128,332	\$616,950	\$7,094
67	4.923	0.011	2073	\$0	\$0	\$0	\$106,937	\$526,433	\$5,658	\$128,332	\$631,757	\$6,789
68	5.041	0.010	2074	\$0	\$0	\$0	\$106,937	\$539,067	\$5,414	\$128,332	\$646,919	\$6,498
69	5.162	0.009	2075	\$0	\$0	\$0	\$234,667	\$1,211,342	\$11,371	\$173,409	\$895,131	\$8,402
70	5.286	0.009	2076	\$0	\$0	\$0	\$106,937	\$565,253	\$4,959	\$128,332	\$678,344	\$5,951
71	5.413	0.008	2077	\$0	\$0	\$0	\$106,937	\$578,819	\$4,746	\$128,332	\$694,624	\$5,695
72	5.543	0.008	2078	\$0	\$0	\$0	\$106,937	\$592,711	\$4,542	\$128,332	\$711,295	\$5,450
73	5.676	0.007	2079	\$0	\$0	\$0	\$106,937	\$606,936	\$4,346	\$128,332	\$728,366	\$5,216
74	5.812	0.007	2080	\$0	\$0	\$0	\$234,667	\$1,363,850	\$9,128	\$173,409	\$1,007,828	\$6,745
75	5.951	0.006	2081	\$0	\$0	\$0	\$106,937	\$636,418	\$3,981	\$128,332	\$763,747	\$4,777
76	6.094	0.006	2082	\$0	\$0	\$0	\$106,937	\$651,692	\$3,810	\$128,332	\$782,077	\$4,572
77	6.240	0.005	2083	\$0	\$0	\$0	\$106,937	\$667,333	\$3,646	\$128,332	\$800,847	\$4,375
78	6.390	0.005	2084	\$0	\$0	\$0	\$106,937	\$683,349	\$3,489	\$128,332	\$820,067	\$4,187
79	6.544	0.005	2085	\$0	\$0	\$0	\$234,667	\$1,535,559	\$7,327	\$173,409	\$1,134,713	\$5,415
80	6.701	0.004	2086	\$0	\$0	\$0	\$106,937	\$716,543	\$3,196	\$128,332	\$859,903	\$3,835
81	6.861	0.004	2087	\$0	\$0	\$0	\$106,937	\$733,740	\$3,058	\$128,332	\$880,541	\$3,670

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#2b Institutional Controls, Monitoring and Containment (2035)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
82	7.026	0.004	2088	\$0	\$0	\$0	\$106,937	\$150,784	\$587	\$128,332	\$901,673	\$3,512
83	7.195	0.004	2089	\$0	\$0	\$0	\$106,937	\$769,382	\$2,801	\$128,332	\$923,314	\$3,361
84	7.367	0.003	2090	\$0	\$0	\$0	\$234,667	\$1,728,886	\$5,882	\$173,409	\$1,277,573	\$4,347
85	7.544	0.003	2091	\$0	\$0	\$0	\$106,937	\$806,756	\$2,565	\$128,332	\$968,165	\$3,078
86	7.725	0.003	2092	\$0	\$0	\$0	\$106,937	\$826,118	\$2,455	\$128,332	\$991,400	\$2,946
87	7.911	0.003	2093	\$0	\$0	\$0	\$106,937	\$845,945	\$2,349	\$128,332	\$1,015,194	\$2,819
88	8.101	0.003	2094	\$0	\$0	\$0	\$106,937	\$866,248	\$2,248	\$128,332	\$1,039,559	\$2,698
89	8.295	0.002	2095	\$0	\$0	\$0	\$234,667	\$1,946,552	\$4,722	\$173,409	\$1,438,420	\$3,489
90	8.494	0.002	2096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
91	8.698	0.002	2097	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
92	8.907	0.002	2098	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
93	9.120	0.002	2099	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
94	9.339	0.002	2100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
95	9.563	0.002	2101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96	9.793	0.002	2102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
97	10.028	0.001	2103	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
98	10.269	0.001	2104	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
99	10.515	0.001	2105	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
100	10.767	0.001	2106	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
101	11.026	0.001	2107		\$0	\$0			\$0			\$0
102	11.291	0.001	2108									
103	11.561	0.001	2109									
104	11.839	0.001	2110									
105	12.123	0.001	2111									
106	12.414	0.001	2112									
107	12.712	0.001	2113									
108	13.017	0.001	2114									
109	13.329	0.001	2115									

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#2b Institutional Controls, Monitoring and Containment (2035)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	Escalation Rate	Discount Rate	Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST		
Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%					Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
110	13.649	0.001	2116									
111	13.977	0.001	2117									
112	14.312	0.001	2118									
113	14.656	0.000	2119									
114	15.008	0.000	2120									
115	15.368	0.000	2121									
116	15.737	0.000	2122									
117	16.114	0.000	2123									
			SUBTOTALS	\$7,990,233	\$14,875,663	\$3,084,305	\$11,174,911	\$40,324,789	\$2,309,583	\$11,462,942	\$42,027,239	\$2,332,187
			TOTALS	30,628,086	97,227,692	7,726,075						
Escalation rates were taken from "http://oecm.energy.gov/Portals/2/2004Rates.pdf," Office of Engineering and Construction Management, US Department of Energy (DOE).												
Discount rates were taken from "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study," US Army Corps of Engineers (USACE)/US Environmental Protection Agency (EPA).												
These numbers do not include contingency. For contingency, see "Summary Cost Estimate Sheet"												

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#3a Institutional Controls, Monitoring, Source Removal and Containment (2012)				
			<u>LIFE CYCLE COST ANALYSIS</u>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Current 2006 Dollars	Escalated Dollars		Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%		
Escalation Rate Discount Rate			2004									
			2005									
0	1.000	1.000	2006	\$0	\$0	\$0		\$0	\$0	\$0	\$0	
1	1.027	0.935	2007	\$0	\$0	\$0		\$0	\$0	\$0	\$0	
2	1.054	0.873	2008	\$0	\$0	\$0		\$0	\$0	\$0	\$0	
3	1.079	0.816	2009	\$0	\$0	\$0		\$0	\$0	\$0	\$0	
4	1.105	0.763	2010	\$0	\$0	\$0		\$0	\$0	\$0	\$0	
5	1.131	0.713	2011	\$0	\$0	\$0		\$0	\$0	\$0	\$0	
6	1.159	0.666	2012	\$28,635,233	\$33,175,566	\$22,106,281		\$0	\$0	\$0	\$0	
7	1.186	0.623	2013	\$0	\$0	\$0	\$234,667	\$278,400	\$173,374	\$173,409	\$205,726	
8	1.215	0.582	2014	\$0	\$0	\$0	\$106,937	\$129,911	\$75,609	\$128,332	\$155,902	
9	1.244	0.544	2015	\$0	\$0	\$0	\$234,667	\$291,924	\$158,787	\$173,409	\$215,719	
10	1.274	0.508	2016	\$0	\$0	\$0	\$106,937	\$136,221	\$69,248	\$128,332	\$163,475	
11	1.304	0.475	2017	\$0	\$0	\$0	\$106,937	\$139,491	\$66,271	\$128,332	\$167,399	
12	1.336	0.444	2018	\$0	\$0	\$0	\$106,937	\$142,839	\$63,422	\$128,332	\$171,416	
13	1.368	0.415	2019	\$0	\$0	\$0	\$106,937	\$146,267	\$60,695	\$128,332	\$175,530	
14	1.401	0.388	2020	\$0	\$0	\$0	\$234,667	\$328,677	\$127,467	\$173,409	\$242,878	
15	1.434	0.362	2021	\$0	\$0	\$0	\$106,937	\$153,372	\$55,589	\$128,332	\$184,057	
16	1.469	0.339	2022	\$0	\$0	\$0	\$106,937	\$157,053	\$53,199	\$128,332	\$188,474	
17	1.504	0.317	2023	\$0	\$0	\$0	\$106,937	\$160,822	\$50,912	\$128,332	\$192,998	
18	1.540	0.296	2024	\$0	\$0	\$0	\$106,937	\$164,682	\$48,723	\$128,332	\$197,630	
19	1.577	0.277	2025	\$0	\$0	\$0	\$234,667	\$370,057	\$102,324	\$173,409	\$273,457	
20	1.615	0.258	2026	\$0	\$0	\$0	\$106,937	\$172,681	\$44,624	\$128,332	\$207,230	
21	1.654	0.242	2027	\$0	\$0	\$0	\$106,937	\$176,826	\$42,706	\$128,332	\$212,203	
22	1.693	0.226	2028	\$0	\$0	\$0	\$106,937	\$181,069	\$40,870	\$128,332	\$217,296	
23	1.734	0.211	2029	\$0	\$0	\$0	\$106,937	\$185,415	\$39,113	\$128,332	\$222,511	
24	1.775	0.197	2030	\$0	\$0	\$0	\$234,667	\$416,648	\$82,141	\$173,409	\$307,885	
25	1.818	0.184	2031	\$0	\$0	\$0	\$106,937	\$194,422	\$35,822	\$128,332	\$233,320	

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#3a Institutional Controls, Monitoring, Source Removal and Containment (2012)				
			<u>LIFE CYCLE COST ANALYSIS</u>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
26	1.862	0.172	2032	\$0	\$0	\$0	\$106,937	\$199,088	\$34,282	\$128,332	\$238,920	\$41,141
27	1.906	0.161	2033	\$0	\$0	\$0	\$106,937	\$203,866	\$32,808	\$128,332	\$244,654	\$39,372
28	1.952	0.150	2034	\$0	\$0	\$0	\$106,937	\$208,759	\$31,398	\$128,332	\$250,525	\$37,680
29	1.999	0.141	2035	\$9,545,078	\$20,007,647	\$2,456,399	\$234,667	\$469,103	\$65,939	\$173,409	\$346,648	\$48,726
30	2.047	0.131	2036	\$0	\$0	\$0	\$106,937	\$218,899	\$28,756	\$128,332	\$262,695	\$34,509
31	2.096	0.123	2037	\$0	\$0	\$0	\$106,937	\$224,153	\$27,520	\$128,332	\$269,000	\$33,026
32	2.146	0.115	2038	\$0	\$0	\$0	\$106,937	\$229,533	\$26,337	\$128,332	\$275,456	\$31,606
33	2.198	0.107	2039	\$0	\$0	\$0	\$106,937	\$235,041	\$25,205	\$128,332	\$282,066	\$30,247
34	2.251	0.100	2040	\$0	\$0	\$0	\$234,667	\$528,164	\$52,932	\$173,409	\$390,291	\$39,115
35	2.305	0.094	2041	\$0	\$0	\$0	\$106,937	\$246,459	\$23,084	\$128,332	\$295,768	\$27,703
36	2.360	0.088	2042	\$0	\$0	\$0	\$106,937	\$252,374	\$22,092	\$128,332	\$302,867	\$26,512
37	2.417	0.082	2043	\$0	\$0	\$0	\$106,937	\$258,431	\$21,142	\$128,332	\$310,135	\$25,372
38	2.475	0.076	2044	\$0	\$0	\$0	\$106,937	\$264,633	\$20,233	\$128,332	\$317,579	\$24,281
39	2.534	0.071	2045	\$0	\$0	\$0	\$234,667	\$594,659	\$42,491	\$173,409	\$439,428	\$31,399
40	2.595	0.067	2046	\$0	\$0	\$0	\$106,937	\$277,488	\$18,531	\$128,332	\$333,005	\$22,238
41	2.657	0.062	2047	\$0	\$0	\$0	\$106,937	\$284,148	\$17,734	\$128,332	\$340,997	\$21,282
42	2.721	0.058	2048	\$0	\$0	\$0	\$106,937	\$290,967	\$16,972	\$128,332	\$349,181	\$20,367
43	2.786	0.055	2049	\$0	\$0	\$0	\$106,937	\$297,950	\$16,242	\$128,332	\$357,562	\$19,492
44	2.853	0.051	2050	\$0	\$0	\$0	\$234,667	\$669,527	\$34,110	\$173,409	\$494,752	\$25,206
45	2.922	0.048	2051	\$0	\$0	\$0	\$106,937	\$312,424	\$14,876	\$128,332	\$374,931	\$17,852
46	2.992	0.044	2052	\$0	\$0	\$0	\$106,937	\$319,922	\$14,236	\$128,332	\$383,929	\$17,084
47	3.063	0.042	2053	\$0	\$0	\$0	\$106,937	\$327,600	\$13,624	\$128,332	\$393,143	\$16,350
48	3.137	0.039	2054	\$0	\$0	\$0	\$106,937	\$335,462	\$13,038	\$128,332	\$402,579	\$15,647
49	3.212	0.036	2055	\$0	\$0	\$0	\$234,667	\$753,820	\$27,382	\$173,409	\$557,041	\$20,234
50	3.289	0.034	2056	\$0	\$0	\$0	\$106,937	\$351,758	\$11,941	\$128,332	\$422,134	\$14,331
51	3.368	0.032	2057	\$0	\$0	\$0	\$106,937	\$360,200	\$11,428	\$128,332	\$432,266	\$13,714
52	3.449	0.030	2058	\$0	\$0	\$0	\$106,937	\$368,845	\$10,937	\$128,332	\$442,640	\$13,125
53	3.532	0.028	2059	\$0	\$0	\$0	\$106,937	\$377,697	\$10,467	\$128,332	\$453,263	\$12,561

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#3a Institutional Controls, Monitoring, Source Removal and Containment (2012)				
			LIFE CYCLE COST ANALYSIS									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
54	3.617	0.026	2060	\$0	\$0	\$0	\$234,667	\$848,726	\$21,981	\$173,409	\$627,173	\$16,243
55	3.704	0.024	2061	\$0	\$0	\$0	\$106,937	\$396,044	\$9,586	\$128,332	\$475,281	\$11,504
56	3.792	0.023	2062	\$0	\$0	\$0	\$106,937	\$405,549	\$9,174	\$128,332	\$486,688	\$11,009
57	3.883	0.021	2063	\$0	\$0	\$0	\$106,937	\$415,282	\$8,779	\$128,332	\$498,368	\$10,536
58	3.977	0.020	2064	\$0	\$0	\$0	\$106,937	\$425,249	\$8,402	\$128,332	\$510,329	\$10,083
59	4.072	0.018	2065	\$0	\$0	\$0	\$234,667	\$955,581	\$17,645	\$173,409	\$706,134	\$13,039
60	4.170	0.017	2066	\$0	\$0	\$0	\$106,937	\$445,906	\$7,695	\$128,332	\$535,119	\$9,235
61	4.270	0.016	2067	\$0	\$0	\$0	\$106,937	\$456,608	\$7,364	\$128,332	\$547,962	\$8,838
62	4.372	0.015	2068	\$0	\$0	\$0	\$106,937	\$467,566	\$7,048	\$128,332	\$561,113	\$8,458
63	4.477	0.014	2069	\$0	\$0	\$0	\$106,937	\$478,788	\$6,745	\$128,332	\$574,579	\$8,094
64	4.585	0.013	2070	\$0	\$0	\$0	\$234,667	\$1,075,888	\$14,165	\$173,409	\$795,036	\$10,467
65	4.695	0.012	2071	\$0	\$0	\$0	\$106,937	\$502,045	\$6,177	\$128,332	\$602,490	\$7,413
66	4.807	0.011	2072	\$0	\$0	\$0	\$106,937	\$514,095	\$5,912	\$128,332	\$616,950	\$7,094
67	4.923	0.011	2073	\$0	\$0	\$0	\$106,937	\$526,433	\$5,658	\$128,332	\$631,757	\$6,789
68	5.041	0.010	2074	\$0	\$0	\$0	\$106,937	\$539,067	\$5,414	\$128,332	\$646,919	\$6,498
69	5.162	0.009	2075	\$0	\$0	\$0	\$234,667	\$1,211,342	\$11,371	\$173,409	\$895,131	\$8,402
70	5.286	0.009	2076	\$0	\$0	\$0	\$106,937	\$565,253	\$4,959	\$128,332	\$678,344	\$5,951
71	5.413	0.008	2077	\$0	\$0	\$0	\$106,937	\$578,819	\$4,746	\$128,332	\$694,624	\$5,695
72	5.543	0.008	2078	\$0	\$0	\$0	\$106,937	\$592,711	\$4,542	\$128,332	\$711,295	\$5,450
73	5.676	0.007	2079	\$0	\$0	\$0	\$106,937	\$606,936	\$4,346	\$128,332	\$728,366	\$5,216
74	5.812	0.007	2080	\$0	\$0	\$0	\$234,667	\$1,363,850	\$9,128	\$173,409	\$1,007,828	\$6,745
75	5.951	0.006	2081	\$0	\$0	\$0	\$106,937	\$636,418	\$3,981	\$128,332	\$763,747	\$4,777
76	6.094	0.006	2082	\$0	\$0	\$0	\$106,937	\$651,692	\$3,810	\$128,332	\$782,077	\$4,572
77	6.240	0.005	2083	\$0	\$0	\$0	\$106,937	\$667,333	\$3,646	\$128,332	\$800,847	\$4,375
78	6.390	0.005	2084	\$0	\$0	\$0	\$106,937	\$683,349	\$3,489	\$128,332	\$820,067	\$4,187
79	6.544	0.005	2085	\$0	\$0	\$0	\$234,667	\$1,535,559	\$7,327	\$173,409	\$1,134,713	\$5,415
80	6.701	0.004	2086	\$0	\$0	\$0	\$106,937	\$716,543	\$3,196	\$128,332	\$859,903	\$3,835
81	6.861	0.004	2087	\$0	\$0	\$0	\$106,937	\$733,740	\$3,058	\$128,332	\$880,541	\$3,670

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#3a Institutional Controls, Monitoring, Source Removal and Containment (2012)				
			LIFE CYCLE COST ANALYSIS									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Current 2006 Dollars	Escalated Dollars		Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%		
82	7.026	0.004	2088	\$0	\$0	\$0	\$106,937	\$751,350	\$2,927	\$128,332	\$901,673	\$3,512
83	7.195	0.004	2089	\$0	\$0	\$0	\$106,937	\$769,382	\$2,801	\$128,332	\$923,314	\$3,361
84	7.367	0.003	2090	\$0	\$0	\$0	\$234,667	\$1,728,886	\$5,882	\$173,409	\$1,277,573	\$4,347
85	7.544	0.003	2091	\$0	\$0	\$0	\$106,937	\$806,756	\$2,565	\$128,332	\$968,165	\$3,078
86	7.725	0.003	2092	\$0	\$0	\$0	\$106,937	\$826,118	\$2,455	\$128,332	\$991,400	\$2,946
87	7.911	0.003	2093	\$0	\$0	\$0	\$106,937	\$845,945	\$2,349	\$128,332	\$1,015,194	\$2,819
88	8.101	0.003	2094	\$0	\$0	\$0	\$106,937	\$866,248	\$2,248	\$128,332	\$1,039,559	\$2,698
89	8.295	0.002	2095	\$0	\$0	\$0	\$234,667	\$1,946,552	\$4,722	\$173,409	\$1,438,420	\$3,489
90	8.494	0.002	2096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
91	8.698	0.002	2097	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
92	8.907	0.002	2098	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
93	9.120	0.002	2099	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
94	9.339	0.002	2100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
95	9.563	0.002	2101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96	9.793	0.002	2102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
97	10.028	0.001	2103	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
98	10.269	0.001	2104	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
99	10.515	0.001	2105	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
100	10.767	0.001	2106	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
101	11.026	0.001	2107		\$0	\$0			\$0			\$0
102	11.291	0.001	2108									
103	11.561	0.001	2109									
104	11.839	0.001	2110									
105	12.123	0.001	2111									
106	12.414	0.001	2112									
107	12.712	0.001	2113									
108	13.017	0.001	2114									
109	13.329	0.001	2115									

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#3a Institutional Controls, Monitoring, Source Removal and Containment (2012)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	Escalation Rate	Discount Rate	Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST		
Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%					Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
110	13.649	0.001	2116									
111	13.977	0.001	2117									
112	14.312	0.001	2118									
113	14.656	0.000	2119									
114	15.008	0.000	2120									
115	15.368	0.000	2121									
116	15.737	0.000	2122									
117	16.114	0.000	2123									
			SUBTOTALS	\$38,180,310	\$53,183,213	\$24,562,680	\$11,174,911	\$40,925,356	\$2,311,922	\$11,462,942	\$42,027,239	\$2,332,187
			TOTALS	60,818,163	136,135,807	29,206,789						
Escalation rates were taken from "http://oecm.energy.gov/Portals/2/2004Rates.pdf," Office of Engineering and Construction Management, US Department of Energy (DOE).												
Discount rates were taken from "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study," US Army Corps of Engineers (USACE)/US Environmental Protection Agency (EPA).												
These numbers do not include contingency. For contingency, see "Summary Cost Estimate Sheet"												

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#3b Institutional Controls, Monitoring, Source Removal and Containment (2035)				
			<u>LIFE CYCLE COST ANALYSIS</u>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Current 2006 Dollars		Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	
Year	Escalation Rate	Discount Rate	Year	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
			2004									
			2005									
0	1.000	1.000	2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1	1.027	0.935	2007	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.054	0.873	2008	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.079	0.816	2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.105	0.763	2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5	1.131	0.713	2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	1.159	0.666	2012	\$9,349,004	\$10,831,359	\$7,217,392	\$0	\$0	\$0	\$0	\$0	\$0
7	1.186	0.623	2013	\$0	\$0	\$0	\$234,667	\$278,400	\$173,374	\$173,409	\$205,726	\$128,116
8	1.215	0.582	2014	\$0	\$0	\$0	\$106,937	\$129,911	\$75,609	\$128,332	\$155,902	\$90,737
9	1.244	0.544	2015	\$0	\$0	\$0	\$234,667	\$291,924	\$158,787	\$173,409	\$215,719	\$117,337
10	1.274	0.508	2016	\$0	\$0	\$0	\$106,937	\$136,221	\$69,248	\$128,332	\$163,475	\$83,103
11	1.304	0.475	2017	\$0	\$0	\$0	\$106,937	\$139,491	\$66,271	\$128,332	\$167,399	\$79,530
12	1.336	0.444	2018	\$0	\$0	\$0	\$106,937	\$142,839	\$63,422	\$128,332	\$171,416	\$76,111
13	1.368	0.415	2019	\$0	\$0	\$0	\$106,937	\$146,267	\$60,695	\$128,332	\$175,530	\$72,839
14	1.401	0.388	2020	\$0	\$0	\$0	\$234,667	\$328,677	\$127,467	\$173,409	\$242,878	\$94,192
15	1.434	0.362	2021	\$0	\$0	\$0	\$106,937	\$153,372	\$55,589	\$128,332	\$184,057	\$66,711
16	1.469	0.339	2022	\$0	\$0	\$0	\$106,937	\$157,053	\$53,199	\$128,332	\$188,474	\$63,843
17	1.504	0.317	2023	\$0	\$0	\$0	\$106,937	\$160,822	\$50,912	\$128,332	\$192,998	\$61,098
18	1.540	0.296	2024	\$0	\$0	\$0	\$106,937	\$164,682	\$48,723	\$128,332	\$197,630	\$58,471
19	1.577	0.277	2025	\$0	\$0	\$0	\$234,667	\$370,057	\$102,324	\$173,409	\$273,457	\$75,613
20	1.615	0.258	2026	\$0	\$0	\$0	\$106,937	\$172,681	\$44,624	\$128,332	\$207,230	\$53,552
21	1.654	0.242	2027	\$0	\$0	\$0	\$106,937	\$176,826	\$42,706	\$128,332	\$212,203	\$51,250
22	1.693	0.226	2028	\$0	\$0	\$0	\$106,937	\$181,069	\$40,870	\$128,332	\$217,296	\$49,047
23	1.734	0.211	2029	\$0	\$0	\$0	\$106,937	\$185,415	\$39,113	\$128,332	\$222,511	\$46,938
24	1.775	0.197	2030	\$0	\$0	\$0	\$234,667	\$416,648	\$82,141	\$173,409	\$307,885	\$60,698
25	1.818	0.184	2031	\$0	\$0	\$0	\$106,937	\$194,422	\$35,822	\$128,332	\$233,320	\$42,989

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#3b Institutional Controls, Monitoring, Source Removal and Containment (2035)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
Year	Escalation Rate	Discount Rate	Year									
26	1.862	0.172	2032	\$0	\$0	\$0	\$106,937	\$199,088	\$34,282	\$128,332	\$238,920	\$41,141
27	1.906	0.161	2033	\$0	\$0	\$0	\$106,937	\$203,866	\$32,808	\$128,332	\$244,654	\$39,372
28	1.952	0.150	2034	\$0	\$0	\$0	\$106,937	\$208,759	\$31,398	\$128,332	\$250,525	\$37,680
29	1.999	0.141	2035	\$28,047,011	\$58,789,956	\$7,217,820	\$234,667	\$469,103	\$65,939	\$173,409	\$346,648	\$48,726
30	2.047	0.131	2036	\$0	\$0	\$0	\$106,937	\$218,899	\$28,756	\$128,332	\$262,695	\$34,509
31	2.096	0.123	2037	\$0	\$0	\$0	\$106,937	\$224,153	\$27,520	\$128,332	\$269,000	\$33,026
32	2.146	0.115	2038	\$0	\$0	\$0	\$106,937	\$229,533	\$26,337	\$128,332	\$275,456	\$31,606
33	2.198	0.107	2039	\$0	\$0	\$0	\$106,937	\$235,041	\$25,205	\$128,332	\$282,066	\$30,247
34	2.251	0.100	2040	\$0	\$0	\$0	\$234,667	\$528,164	\$52,932	\$173,409	\$390,291	\$39,115
35	2.305	0.094	2041	\$0	\$0	\$0	\$106,937	\$246,459	\$23,084	\$128,332	\$295,768	\$27,703
36	2.360	0.088	2042	\$0	\$0	\$0	\$106,937	\$252,374	\$22,092	\$128,332	\$302,867	\$26,512
37	2.417	0.082	2043	\$0	\$0	\$0	\$106,937	\$258,431	\$21,142	\$128,332	\$310,135	\$25,372
38	2.475	0.076	2044	\$0	\$0	\$0	\$106,937	\$264,633	\$20,233	\$128,332	\$317,579	\$24,281
39	2.534	0.071	2045	\$0	\$0	\$0	\$234,667	\$594,659	\$42,491	\$173,409	\$439,428	\$31,399
40	2.595	0.067	2046	\$0	\$0	\$0	\$106,937	\$277,488	\$18,531	\$128,332	\$333,005	\$22,238
41	2.657	0.062	2047	\$0	\$0	\$0	\$106,937	\$284,148	\$17,734	\$128,332	\$340,997	\$21,282
42	2.721	0.058	2048	\$0	\$0	\$0	\$106,937	\$290,967	\$16,972	\$128,332	\$349,181	\$20,367
43	2.786	0.055	2049	\$0	\$0	\$0	\$106,937	\$297,950	\$16,242	\$128,332	\$357,562	\$19,492
44	2.853	0.051	2050	\$0	\$0	\$0	\$234,667	\$669,527	\$34,110	\$173,409	\$494,752	\$25,206
45	2.922	0.048	2051	\$0	\$0	\$0	\$106,937	\$312,424	\$14,876	\$128,332	\$374,931	\$17,852
46	2.992	0.044	2052	\$0	\$0	\$0	\$106,937	\$319,922	\$14,236	\$128,332	\$383,929	\$17,084
47	3.063	0.042	2053	\$0	\$0	\$0	\$106,937	\$327,600	\$13,624	\$128,332	\$393,143	\$16,350
48	3.137	0.039	2054	\$0	\$0	\$0	\$106,937	\$335,462	\$13,038	\$128,332	\$402,579	\$15,647
49	3.212	0.036	2055	\$0	\$0	\$0	\$234,667	\$753,820	\$27,382	\$173,409	\$557,041	\$20,234
50	3.289	0.034	2056	\$0	\$0	\$0	\$106,937	\$351,758	\$11,941	\$128,332	\$422,134	\$14,331
51	3.368	0.032	2057	\$0	\$0	\$0	\$106,937	\$360,200	\$11,428	\$128,332	\$432,266	\$13,714
52	3.449	0.030	2058	\$0	\$0	\$0	\$106,937	\$368,845	\$10,937	\$128,332	\$442,640	\$13,125
53	3.532	0.028	2059	\$0	\$0	\$0	\$106,937	\$377,697	\$10,467	\$128,332	\$453,263	\$12,561

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#3b Institutional Controls, Monitoring, Source Removal and Containment (2035)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
54	3.617	0.026	2060	\$0	\$0	\$0	\$234,667	\$848,726	\$21,981	\$173,409	\$627,173	\$16,243
55	3.704	0.024	2061	\$0	\$0	\$0	\$106,937	\$396,044	\$9,586	\$128,332	\$475,281	\$11,504
56	3.792	0.023	2062	\$0	\$0	\$0	\$106,937	\$405,549	\$9,174	\$128,332	\$486,688	\$11,009
57	3.883	0.021	2063	\$0	\$0	\$0	\$106,937	\$415,282	\$8,779	\$128,332	\$498,368	\$10,536
58	3.977	0.020	2064	\$0	\$0	\$0	\$106,937	\$425,249	\$8,402	\$128,332	\$510,329	\$10,083
59	4.072	0.018	2065	\$0	\$0	\$0	\$234,667	\$955,581	\$17,645	\$173,409	\$706,134	\$13,039
60	4.170	0.017	2066	\$0	\$0	\$0	\$106,937	\$445,906	\$7,695	\$128,332	\$535,119	\$9,235
61	4.270	0.016	2067	\$0	\$0	\$0	\$106,937	\$456,608	\$7,364	\$128,332	\$547,962	\$8,838
62	4.372	0.015	2068	\$0	\$0	\$0	\$106,937	\$467,566	\$7,048	\$128,332	\$561,113	\$8,458
63	4.477	0.014	2069	\$0	\$0	\$0	\$106,937	\$478,788	\$6,745	\$128,332	\$574,579	\$8,094
64	4.585	0.013	2070	\$0	\$0	\$0	\$234,667	\$1,075,888	\$14,165	\$173,409	\$795,036	\$10,467
65	4.695	0.012	2071	\$0	\$0	\$0	\$106,937	\$502,045	\$6,177	\$128,332	\$602,490	\$7,413
66	4.807	0.011	2072	\$0	\$0	\$0	\$106,937	\$514,095	\$5,912	\$128,332	\$616,950	\$7,094
67	4.923	0.011	2073	\$0	\$0	\$0	\$106,937	\$526,433	\$5,658	\$128,332	\$631,757	\$6,789
68	5.041	0.010	2074	\$0	\$0	\$0	\$106,937	\$539,067	\$5,414	\$128,332	\$646,919	\$6,498
69	5.162	0.009	2075	\$0	\$0	\$0	\$234,667	\$1,211,342	\$11,371	\$173,409	\$895,131	\$8,402
70	5.286	0.009	2076	\$0	\$0	\$0	\$106,937	\$565,253	\$4,959	\$128,332	\$678,344	\$5,951
71	5.413	0.008	2077	\$0	\$0	\$0	\$106,937	\$578,819	\$4,746	\$128,332	\$694,624	\$5,695
72	5.543	0.008	2078	\$0	\$0	\$0	\$106,937	\$592,711	\$4,542	\$128,332	\$711,295	\$5,450
73	5.676	0.007	2079	\$0	\$0	\$0	\$106,937	\$606,936	\$4,346	\$128,332	\$728,366	\$5,216
74	5.812	0.007	2080	\$0	\$0	\$0	\$234,667	\$1,363,850	\$9,128	\$173,409	\$1,007,828	\$6,745
75	5.951	0.006	2081	\$0	\$0	\$0	\$106,937	\$636,418	\$3,981	\$128,332	\$763,747	\$4,777
76	6.094	0.006	2082	\$0	\$0	\$0	\$106,937	\$651,692	\$3,810	\$128,332	\$782,077	\$4,572
77	6.240	0.005	2083	\$0	\$0	\$0	\$106,937	\$667,333	\$3,646	\$128,332	\$800,847	\$4,375
78	6.390	0.005	2084	\$0	\$0	\$0	\$106,937	\$683,349	\$3,489	\$128,332	\$820,067	\$4,187
79	6.544	0.005	2085	\$0	\$0	\$0	\$234,667	\$1,535,559	\$7,327	\$173,409	\$1,134,713	\$5,415
80	6.701	0.004	2086	\$0	\$0	\$0	\$106,937	\$716,543	\$3,196	\$128,332	\$859,903	\$3,835
81	6.861	0.004	2087	\$0	\$0	\$0	\$106,937	\$733,740	\$3,058	\$128,332	\$880,541	\$3,670

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#3b Institutional Controls, Monitoring, Source Removal and Containment (2035)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
82	7.026	0.004	2088	\$0	\$0	\$0	\$106,937	\$751,350	\$2,927	\$128,332	\$901,673	\$3,512
83	7.195	0.004	2089	\$0	\$0	\$0	\$106,937	\$769,382	\$2,801	\$128,332	\$923,314	\$3,361
84	7.367	0.003	2090	\$0	\$0	\$0	\$234,667	\$1,728,886	\$5,882	\$173,409	\$1,277,573	\$4,347
85	7.544	0.003	2091	\$0	\$0	\$0	\$106,937	\$806,756	\$2,565	\$128,332	\$968,165	\$3,078
86	7.725	0.003	2092	\$0	\$0	\$0	\$106,937	\$826,118	\$2,455	\$128,332	\$991,400	\$2,946
87	7.911	0.003	2093	\$0	\$0	\$0	\$106,937	\$845,945	\$2,349	\$128,332	\$1,015,194	\$2,819
88	8.101	0.003	2094	\$0	\$0	\$0	\$106,937	\$866,248	\$2,248	\$128,332	\$1,039,559	\$2,698
89	8.295	0.002	2095	\$0	\$0	\$0	\$234,667	\$1,946,552	\$4,722	\$173,409	\$1,438,420	\$3,489
90	8.494	0.002	2096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
91	8.698	0.002	2097	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
92	8.907	0.002	2098	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
93	9.120	0.002	2099	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
94	9.339	0.002	2100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
95	9.563	0.002	2101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96	9.793	0.002	2102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
97	10.028	0.001	2103	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
98	10.269	0.001	2104	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
99	10.515	0.001	2105	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
100	10.767	0.001	2106	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
101	11.026	0.001	2107		\$0	\$0			\$0			\$0
102	11.291	0.001	2108									
103	11.561	0.001	2109									
104	11.839	0.001	2110									
105	12.123	0.001	2111									
106	12.414	0.001	2112									
107	12.712	0.001	2113									
108	13.017	0.001	2114									
109	13.329	0.001	2115									

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#3b Institutional Controls, Monitoring, Source Removal and Containment (2035)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	Escalation Rate	Discount Rate	Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST		
Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%					Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
110	13.649	0.001	2116									
111	13.977	0.001	2117									
112	14.312	0.001	2118									
113	14.656	0.000	2119									
114	15.008	0.000	2120									
115	15.368	0.000	2121									
116	15.737	0.000	2122									
117	16.114	0.000	2123									
			SUBTOTALS	\$37,396,015	\$69,621,315	\$14,435,212	\$11,174,911	\$40,925,356	\$2,311,922	\$11,462,942	\$42,027,239	\$2,332,187
			TOTALS	60,033,868	152,573,910	19,079,321						
Escalation rates were taken from "http://oecm.energy.gov/Portals/2/2004Rates.pdf," Office of Engineering and Construction Management, US Department of Energy (DOE).												
Discount rates were taken from "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study," US Army Corps of Engineers (USACE)/US Environmental Protection Agency (EPA).												
These numbers do not include contingency. For contingency, see "Summary Cost Estimate Sheet"												

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#4a Institutional Controls, Monitoring, Source Treatment and Containment (2012)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Current 2006 Dollars		Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	
Year	Escalation Rate	Discount Rate	Year	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
			2004									
			2005									
0	1.000	1.000	2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1	1.027	0.935	2007	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.054	0.873	2008	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.079	0.816	2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.105	0.763	2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5	1.131	0.713	2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	1.159	0.666	2012	\$9,710,996	\$11,250,748	\$7,496,848	\$0	\$0	\$0	\$0	\$0	\$0
7	1.186	0.623	2013	\$0	\$0	\$0	\$234,667	\$278,400	\$173,374	\$173,409	\$205,726	\$128,116
8	1.215	0.582	2014	\$0	\$0	\$0	\$106,937	\$129,911	\$75,609	\$128,332	\$155,902	\$90,737
9	1.244	0.544	2015	\$0	\$0	\$0	\$234,667	\$291,924	\$158,787	\$173,409	\$215,719	\$117,337
10	1.274	0.508	2016	\$0	\$0	\$0	\$106,937	\$136,221	\$69,248	\$128,332	\$163,475	\$83,103
11	1.304	0.475	2017	\$0	\$0	\$0	\$106,937	\$139,491	\$66,271	\$128,332	\$167,399	\$79,530
12	1.336	0.444	2018	\$0	\$0	\$0	\$106,937	\$142,839	\$63,422	\$128,332	\$171,416	\$76,111
13	1.368	0.415	2019	\$0	\$0	\$0	\$106,937	\$146,267	\$60,695	\$128,332	\$175,530	\$72,839
14	1.401	0.388	2020	\$0	\$0	\$0	\$234,667	\$328,677	\$127,467	\$173,409	\$242,878	\$94,192
15	1.434	0.362	2021	\$0	\$0	\$0	\$106,937	\$153,372	\$55,589	\$128,332	\$184,057	\$66,711
16	1.469	0.339	2022	\$0	\$0	\$0	\$106,937	\$157,053	\$53,199	\$128,332	\$188,474	\$63,843
17	1.504	0.317	2023	\$0	\$0	\$0	\$106,937	\$160,822	\$50,912	\$128,332	\$192,998	\$61,098
18	1.540	0.296	2024	\$0	\$0	\$0	\$106,937	\$164,682	\$48,723	\$128,332	\$197,630	\$58,471
19	1.577	0.277	2025	\$0	\$0	\$0	\$234,667	\$370,057	\$102,324	\$173,409	\$273,457	\$75,613
20	1.615	0.258	2026	\$0	\$0	\$0	\$106,937	\$172,681	\$44,624	\$128,332	\$207,230	\$53,552
21	1.654	0.242	2027	\$0	\$0	\$0	\$106,937	\$176,826	\$42,706	\$128,332	\$212,203	\$51,250
22	1.693	0.226	2028	\$0	\$0	\$0	\$106,937	\$181,069	\$40,870	\$128,332	\$217,296	\$49,047
23	1.734	0.211	2029	\$0	\$0	\$0	\$106,937	\$185,415	\$39,113	\$128,332	\$222,511	\$46,938
24	1.775	0.197	2030	\$0	\$0	\$0	\$234,667	\$416,648	\$82,141	\$173,409	\$307,885	\$60,698
25	1.818	0.184	2031	\$0	\$0	\$0	\$106,937	\$194,422	\$35,822	\$128,332	\$233,320	\$42,989

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#4a Institutional Controls, Monitoring, Source Treatment and Containment (2012)				
			LIFE CYCLE COST ANALYSIS									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Current 2006 Dollars	Escalated Dollars		Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%		
26	1.862	0.172	2032	\$0	\$0	\$0	\$106,937	\$199,088	\$34,282	\$128,332	\$238,920	\$41,141
27	1.906	0.161	2033	\$0	\$0	\$0	\$106,937	\$203,866	\$32,808	\$128,332	\$244,654	\$39,372
28	1.952	0.150	2034	\$0	\$0	\$0	\$106,937	\$208,759	\$31,398	\$128,332	\$250,525	\$37,680
29	1.999	0.141	2035	\$3,236,999	\$6,785,144	\$833,032	\$234,667	\$469,103	\$65,939	\$173,409	\$346,648	\$48,726
30	2.047	0.131	2036	\$0	\$0	\$0	\$106,937	\$218,899	\$28,756	\$128,332	\$262,695	\$34,509
31	2.096	0.123	2037	\$0	\$0	\$0	\$106,937	\$224,153	\$27,520	\$128,332	\$269,000	\$33,026
32	2.146	0.115	2038	\$0	\$0	\$0	\$106,937	\$229,533	\$26,337	\$128,332	\$275,456	\$31,606
33	2.198	0.107	2039	\$0	\$0	\$0	\$106,937	\$235,041	\$25,205	\$128,332	\$282,066	\$30,247
34	2.251	0.100	2040	\$0	\$0	\$0	\$234,667	\$528,164	\$52,932	\$173,409	\$390,291	\$39,115
35	2.305	0.094	2041	\$0	\$0	\$0	\$106,937	\$246,459	\$23,084	\$128,332	\$295,768	\$27,703
36	2.360	0.088	2042	\$0	\$0	\$0	\$106,937	\$252,374	\$22,092	\$128,332	\$302,867	\$26,512
37	2.417	0.082	2043	\$0	\$0	\$0	\$106,937	\$258,431	\$21,142	\$128,332	\$310,135	\$25,372
38	2.475	0.076	2044	\$0	\$0	\$0	\$106,937	\$264,633	\$20,233	\$128,332	\$317,579	\$24,281
39	2.534	0.071	2045	\$0	\$0	\$0	\$234,667	\$594,659	\$42,491	\$173,409	\$439,428	\$31,399
40	2.595	0.067	2046	\$0	\$0	\$0	\$106,937	\$277,488	\$18,531	\$128,332	\$333,005	\$22,238
41	2.657	0.062	2047	\$0	\$0	\$0	\$106,937	\$284,148	\$17,734	\$128,332	\$340,997	\$21,282
42	2.721	0.058	2048	\$0	\$0	\$0	\$106,937	\$290,967	\$16,972	\$128,332	\$349,181	\$20,367
43	2.786	0.055	2049	\$0	\$0	\$0	\$106,937	\$297,950	\$16,242	\$128,332	\$357,562	\$19,492
44	2.853	0.051	2050	\$0	\$0	\$0	\$234,667	\$669,527	\$34,110	\$173,409	\$494,752	\$25,206
45	2.922	0.048	2051	\$0	\$0	\$0	\$106,937	\$312,424	\$14,876	\$128,332	\$374,931	\$17,852
46	2.992	0.044	2052	\$0	\$0	\$0	\$106,937	\$319,922	\$14,236	\$128,332	\$383,929	\$17,084
47	3.063	0.042	2053	\$0	\$0	\$0	\$106,937	\$327,600	\$13,624	\$128,332	\$393,143	\$16,350
48	3.137	0.039	2054	\$0	\$0	\$0	\$106,937	\$335,462	\$13,038	\$128,332	\$402,579	\$15,647
49	3.212	0.036	2055	\$0	\$0	\$0	\$234,667	\$753,820	\$27,382	\$173,409	\$557,041	\$20,234
50	3.289	0.034	2056	\$0	\$0	\$0	\$106,937	\$351,758	\$11,941	\$128,332	\$422,134	\$14,331
51	3.368	0.032	2057	\$0	\$0	\$0	\$106,937	\$360,200	\$11,428	\$128,332	\$432,266	\$13,714
52	3.449	0.030	2058	\$0	\$0	\$0	\$106,937	\$368,845	\$10,937	\$128,332	\$442,640	\$13,125
53	3.532	0.028	2059	\$0	\$0	\$0	\$106,937	\$377,697	\$10,467	\$128,332	\$453,263	\$12,561

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#4a Institutional Controls, Monitoring, Source Treatment and Containment (2012)				
			LIFE CYCLE COST ANALYSIS									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
54	3.617	0.026	2060	\$0	\$0	\$0	\$234,667	\$848,726	\$21,981	\$173,409	\$627,173	\$16,243
55	3.704	0.024	2061	0	\$0	\$0	\$106,937	\$396,044	\$9,586	\$128,332	\$475,281	\$11,504
56	3.792	0.023	2062	\$0	\$0	\$0	\$106,937	\$405,549	\$9,174	\$128,332	\$486,688	\$11,009
57	3.883	0.021	2063	\$0	\$0	\$0	\$106,937	\$415,282	\$8,779	\$128,332	\$498,368	\$10,536
58	3.977	0.020	2064	\$0	\$0	\$0	\$106,937	\$425,249	\$8,402	\$128,332	\$510,329	\$10,083
59	4.072	0.018	2065	\$0	\$0	\$0	\$234,667	\$955,581	\$17,645	\$173,409	\$706,134	\$13,039
60	4.170	0.017	2066	\$0	\$0	\$0	\$106,937	\$445,906	\$7,695	\$128,332	\$535,119	\$9,235
61	4.270	0.016	2067	\$0	\$0	\$0	\$106,937	\$456,608	\$7,364	\$128,332	\$547,962	\$8,838
62	4.372	0.015	2068	\$0	\$0	\$0	\$106,937	\$467,566	\$7,048	\$128,332	\$561,113	\$8,458
63	4.477	0.014	2069	\$0	\$0	\$0	\$106,937	\$478,788	\$6,745	\$128,332	\$574,579	\$8,094
64	4.585	0.013	2070	\$0	\$0	\$0	\$234,667	\$1,075,888	\$14,165	\$173,409	\$795,036	\$10,467
65	4.695	0.012	2071	\$0	\$0	\$0	\$106,937	\$502,045	\$6,177	\$128,332	\$602,490	\$7,413
66	4.807	0.011	2072	\$0	\$0	\$0	\$106,937	\$514,095	\$5,912	\$128,332	\$616,950	\$7,094
67	4.923	0.011	2073	\$0	\$0	\$0	\$106,937	\$526,433	\$5,658	\$128,332	\$631,757	\$6,789
68	5.041	0.010	2074	\$0	\$0	\$0	\$106,937	\$539,067	\$5,414	\$128,332	\$646,919	\$6,498
69	5.162	0.009	2075	\$0	\$0	\$0	\$234,667	\$1,211,342	\$11,371	\$173,409	\$895,131	\$8,402
70	5.286	0.009	2076	\$0	\$0	\$0	\$106,937	\$565,253	\$4,959	\$128,332	\$678,344	\$5,951
71	5.413	0.008	2077	\$0	\$0	\$0	\$106,937	\$578,819	\$4,746	\$128,332	\$694,624	\$5,695
72	5.543	0.008	2078	\$0	\$0	\$0	\$106,937	\$592,711	\$4,542	\$128,332	\$711,295	\$5,450
73	5.676	0.007	2079	\$0	\$0	\$0	\$106,937	\$606,936	\$4,346	\$128,332	\$728,366	\$5,216
74	5.812	0.007	2080	\$0	\$0	\$0	\$234,667	\$1,363,850	\$9,128	\$173,409	\$1,007,828	\$6,745
75	5.951	0.006	2081	\$0	\$0	\$0	\$106,937	\$636,418	\$3,981	\$128,332	\$763,747	\$4,777
76	6.094	0.006	2082	\$0	\$0	\$0	\$106,937	\$651,692	\$3,810	\$128,332	\$782,077	\$4,572
77	6.240	0.005	2083	\$0	\$0	\$0	\$106,937	\$667,333	\$3,646	\$128,332	\$800,847	\$4,375
78	6.390	0.005	2084	\$0	\$0	\$0	\$106,937	\$683,349	\$3,489	\$128,332	\$820,067	\$4,187
79	6.544	0.005	2085	\$0	\$0	\$0	\$234,667	\$1,535,559	\$7,327	\$173,409	\$1,134,713	\$5,415
80	6.701	0.004	2086	\$0	\$0	\$0	\$106,937	\$716,543	\$3,196	\$128,332	\$859,903	\$3,835
81	6.861	0.004	2087	\$0	\$0	\$0	\$106,937	\$733,740	\$3,058	\$128,332	\$880,541	\$3,670

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#4a Institutional Controls, Monitoring, Source Treatment and Containment (2012)				
			<u>LIFE CYCLE COST ANALYSIS</u>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
82	7.026	0.004	2088	\$0	\$0	\$0	\$106,937	\$751,350	\$2,927	\$128,332	\$901,673	\$3,512
83	7.195	0.004	2089	\$0	\$0	\$0	\$106,937	\$769,382	\$2,801	\$128,332	\$923,314	\$3,361
84	7.367	0.003	2090	\$0	\$0	\$0	\$234,667	\$1,728,886	\$5,882	\$173,409	\$1,277,573	\$4,347
85	7.544	0.003	2091	\$0	\$0	\$0	\$106,937	\$806,756	\$2,565	\$128,332	\$968,165	\$3,078
86	7.725	0.003	2092	\$0	\$0	\$0	\$106,937	\$826,118	\$2,455	\$128,332	\$991,400	\$2,946
87	7.911	0.003	2093	\$0	\$0	\$0	\$106,937	\$845,945	\$2,349	\$128,332	\$1,015,194	\$2,819
88	8.101	0.003	2094	\$0	\$0	\$0	\$106,937	\$866,248	\$2,248	\$128,332	\$1,039,559	\$2,698
89	8.295	0.002	2095	\$0	\$0	\$0	\$234,667	\$1,946,552	\$4,722	\$173,409	\$1,438,420	\$3,489
90	8.494	0.002	2096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
91	8.698	0.002	2097	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
92	8.907	0.002	2098	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
93	9.120	0.002	2099	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
94	9.339	0.002	2100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
95	9.563	0.002	2101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96	9.793	0.002	2102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
97	10.028	0.001	2103	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
98	10.269	0.001	2104	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
99	10.515	0.001	2105	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
100	10.767	0.001	2106	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
101	11.026	0.001	2107		\$0	\$0			\$0			\$0
102	11.291	0.001	2108									
103	11.561	0.001	2109									
104	11.839	0.001	2110									
105	12.123	0.001	2111									
106	12.414	0.001	2112									
107	12.712	0.001	2113									
108	13.017	0.001	2114									
109	13.329	0.001	2115									

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#4a Institutional Controls, Monitoring, Source Treatment and Containment (2012)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
Year	Escalation Rate	Discount Rate	Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
				Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
110	13.649	0.001	2116									
111	13.977	0.001	2117									
112	14.312	0.001	2118									
113	14.656	0.000	2119									
114	15.008	0.000	2120									
115	15.368	0.000	2121									
116	15.737	0.000	2122									
117	16.114	0.000	2123									
118	16.501	0.000	SUBTOTALS	\$12,947,994	\$18,035,891	\$8,329,881	\$11,174,911	\$40,925,356	\$2,311,922	\$11,462,942	\$42,027,239	\$2,332,187
119	16.897	0.000	TOTALS	35,585,847	100,988,486	12,973,990						
Escalation rates were taken from "http://oecm.energy.gov/Portals/2/2004Rates.pdf," Office of Engineering and Construction Management, US Department of Energy (DOE).												
Discount rates were taken from "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study," US Army Corps of Engineers (USACE)/US Environmental Protection Agency (EPA).												
These numbers do not include contingency. For contingency, see "Summary Cost Estimate Sheet"												

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#4b Institutional Controls, Monitoring, Source Treatment and Containment (2035)				
			<u>LIFE CYCLE COST ANALYSIS</u>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Current 2006 Dollars	Escalated Dollars		Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%		
Escalation Rate Discount Rate			2004									
Year			2005									
0	1.000	1.000	2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1	1.027	0.935	2007	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.054	0.873	2008	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.079	0.816	2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.105	0.763	2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5	1.131	0.713	2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	1.159	0.666	2012	\$3,040,925	\$3,523,086	\$2,347,581	\$0	\$0	\$0	\$0	\$0	\$0
7	1.186	0.623	2013	\$0	\$0	\$0	\$234,667	\$278,400	\$173,374	\$173,409	\$205,726	\$128,116
8	1.215	0.582	2014	\$0	\$0	\$0	\$106,937	\$129,911	\$75,609	\$128,332	\$155,902	\$90,737
9	1.244	0.544	2015	\$0	\$0	\$0	\$234,667	\$291,924	\$158,787	\$173,409	\$215,719	\$117,337
10	1.274	0.508	2016	\$0	\$0	\$0	\$106,937	\$136,221	\$69,248	\$128,332	\$163,475	\$83,103
11	1.304	0.475	2017	\$0	\$0	\$0	\$106,937	\$139,491	\$66,271	\$128,332	\$167,399	\$79,530
12	1.336	0.444	2018	\$0	\$0	\$0	\$106,937	\$142,839	\$63,422	\$128,332	\$171,416	\$76,111
13	1.368	0.415	2019	\$0	\$0	\$0	\$106,937	\$146,267	\$60,695	\$128,332	\$175,530	\$72,839
14	1.401	0.388	2020	\$0	\$0	\$0	\$234,667	\$328,677	\$127,467	\$173,409	\$242,878	\$94,192
15	1.434	0.362	2021	\$0	\$0	\$0	\$106,937	\$153,372	\$55,589	\$128,332	\$184,057	\$66,711
16	1.469	0.339	2022	\$0	\$0	\$0	\$106,937	\$157,053	\$53,199	\$128,332	\$188,474	\$63,843
17	1.504	0.317	2023	\$0	\$0	\$0	\$106,937	\$160,822	\$50,912	\$128,332	\$192,998	\$61,098
18	1.540	0.296	2024	\$0	\$0	\$0	\$106,937	\$164,682	\$48,723	\$128,332	\$197,630	\$58,471
19	1.577	0.277	2025	\$0	\$0	\$0	\$234,667	\$370,057	\$102,324	\$173,409	\$273,457	\$75,613
20	1.615	0.258	2026	\$0	\$0	\$0	\$106,937	\$172,681	\$44,624	\$128,332	\$207,230	\$53,552
21	1.654	0.242	2027	\$0	\$0	\$0	\$106,937	\$176,826	\$42,706	\$128,332	\$212,203	\$51,250
22	1.693	0.226	2028	\$0	\$0	\$0	\$106,937	\$181,069	\$40,870	\$128,332	\$217,296	\$49,047
23	1.734	0.211	2029	\$0	\$0	\$0	\$106,937	\$185,415	\$39,113	\$128,332	\$222,511	\$46,938
24	1.775	0.197	2030	\$0	\$0	\$0	\$234,667	\$416,648	\$82,141	\$173,409	\$307,885	\$60,698
25	1.818	0.184	2031	\$0	\$0	\$0	\$106,937	\$194,422	\$35,822	\$128,332	\$233,320	\$42,989

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#4b Institutional Controls, Monitoring, Source Treatment and Containment (2035)				
			LIFE CYCLE COST ANALYSIS									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Current 2006 Dollars	Escalated Dollars		Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%		
26	1.862	0.172	2032	\$0	\$0	\$0	\$106,937	\$199,088	\$34,282	\$128,332	\$238,920	\$41,141
27	1.906	0.161	2033	\$0	\$0	\$0	\$106,937	\$203,866	\$32,808	\$128,332	\$244,654	\$39,372
28	1.952	0.150	2034	\$0	\$0	\$0	\$106,937	\$208,759	\$31,398	\$128,332	\$250,525	\$37,680
29	1.999	0.141	2035	\$9,122,774	\$19,122,447	\$2,347,720	\$234,667	\$469,103	\$65,939	\$173,409	\$346,648	\$48,726
30	2.047	0.131	2036	\$0	\$0	\$0	\$106,937	\$218,899	\$28,756	\$128,332	\$262,695	\$34,509
31	2.096	0.123	2037	\$0	\$0	\$0	\$106,937	\$224,153	\$27,520	\$128,332	\$269,000	\$33,026
32	2.146	0.115	2038	\$0	\$0	\$0	\$106,937	\$229,533	\$26,337	\$128,332	\$275,456	\$31,606
33	2.198	0.107	2039	\$0	\$0	\$0	\$106,937	\$235,041	\$25,205	\$128,332	\$282,066	\$30,247
34	2.251	0.100	2040	\$0	\$0	\$0	\$234,667	\$528,164	\$52,932	\$173,409	\$390,291	\$39,115
35	2.305	0.094	2041	\$0	\$0	\$0	\$106,937	\$246,459	\$23,084	\$128,332	\$295,768	\$27,703
36	2.360	0.088	2042	\$0	\$0	\$0	\$106,937	\$252,374	\$22,092	\$128,332	\$302,867	\$26,512
37	2.417	0.082	2043	\$0	\$0	\$0	\$106,937	\$258,431	\$21,142	\$128,332	\$310,135	\$25,372
38	2.475	0.076	2044	\$0	\$0	\$0	\$106,937	\$264,633	\$20,233	\$128,332	\$317,579	\$24,281
39	2.534	0.071	2045	\$0	\$0	\$0	\$234,667	\$594,659	\$42,491	\$173,409	\$439,428	\$31,399
40	2.595	0.067	2046	\$0	\$0	\$0	\$106,937	\$277,488	\$18,531	\$128,332	\$333,005	\$22,238
41	2.657	0.062	2047	\$0	\$0	\$0	\$106,937	\$284,148	\$17,734	\$128,332	\$340,997	\$21,282
42	2.721	0.058	2048	\$0	\$0	\$0	\$106,937	\$290,967	\$16,972	\$128,332	\$349,181	\$20,367
43	2.786	0.055	2049	\$0	\$0	\$0	\$106,937	\$297,950	\$16,242	\$128,332	\$357,562	\$19,492
44	2.853	0.051	2050	\$0	\$0	\$0	\$234,667	\$669,527	\$34,110	\$173,409	\$494,752	\$25,206
45	2.922	0.048	2051	\$0	\$0	\$0	\$106,937	\$312,424	\$14,876	\$128,332	\$374,931	\$17,852
46	2.992	0.044	2052	\$0	\$0	\$0	\$106,937	\$319,922	\$14,236	\$128,332	\$383,929	\$17,084
47	3.063	0.042	2053	\$0	\$0	\$0	\$106,937	\$327,600	\$13,624	\$128,332	\$393,143	\$16,350
48	3.137	0.039	2054	\$0	\$0	\$0	\$106,937	\$335,462	\$13,038	\$128,332	\$402,579	\$15,647
49	3.212	0.036	2055	\$0	\$0	\$0	\$234,667	\$753,820	\$27,382	\$173,409	\$557,041	\$20,234
50	3.289	0.034	2056	\$0	\$0	\$0	\$106,937	\$351,758	\$11,941	\$128,332	\$422,134	\$14,331
51	3.368	0.032	2057	\$0	\$0	\$0	\$106,937	\$360,200	\$11,428	\$128,332	\$432,266	\$13,714
52	3.449	0.030	2058	\$0	\$0	\$0	\$106,937	\$368,845	\$10,937	\$128,332	\$442,640	\$13,125
53	3.532	0.028	2059	\$0	\$0	\$0	\$106,937	\$377,697	\$10,467	\$128,332	\$453,263	\$12,561

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#4b Institutional Controls, Monitoring, Source Treatment and Containment (2035)				
			<u>LIFE CYCLE COST ANALYSIS</u>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
54	3.617	0.026	2060	\$0	\$0	\$0	\$234,667	\$848,726	\$21,981	\$173,409	\$627,173	\$16,243
55	3.704	0.024	2061	\$0	\$0	\$0	\$106,937	\$396,044	\$9,586	\$128,332	\$475,281	\$11,504
56	3.792	0.023	2062	\$0	\$0	\$0	\$106,937	\$405,549	\$9,174	\$128,332	\$486,688	\$11,009
57	3.883	0.021	2063	\$0	\$0	\$0	\$106,937	\$415,282	\$8,779	\$128,332	\$498,368	\$10,536
58	3.977	0.020	2064	\$0	\$0	\$0	\$106,937	\$425,249	\$8,402	\$128,332	\$510,329	\$10,083
59	4.072	0.018	2065	\$0	\$0	\$0	\$234,667	\$955,581	\$17,645	\$173,409	\$706,134	\$13,039
60	4.170	0.017	2066	\$0	\$0	\$0	\$106,937	\$445,906	\$7,695	\$128,332	\$535,119	\$9,235
61	4.270	0.016	2067	\$0	\$0	\$0	\$106,937	\$456,608	\$7,364	\$128,332	\$547,962	\$8,838
62	4.372	0.015	2068	\$0	\$0	\$0	\$106,937	\$467,566	\$7,048	\$128,332	\$561,113	\$8,458
63	4.477	0.014	2069	\$0	\$0	\$0	\$106,937	\$478,788	\$6,745	\$128,332	\$574,579	\$8,094
64	4.585	0.013	2070	\$0	\$0	\$0	\$234,667	\$1,075,888	\$14,165	\$173,409	\$795,036	\$10,467
65	4.695	0.012	2071	\$0	\$0	\$0	\$106,937	\$502,045	\$6,177	\$128,332	\$602,490	\$7,413
66	4.807	0.011	2072	\$0	\$0	\$0	\$106,937	\$514,095	\$5,912	\$128,332	\$616,950	\$7,094
67	4.923	0.011	2073	\$0	\$0	\$0	\$106,937	\$526,433	\$5,658	\$128,332	\$631,757	\$6,789
68	5.041	0.010	2074	\$0	\$0	\$0	\$106,937	\$539,067	\$5,414	\$128,332	\$646,919	\$6,498
69	5.162	0.009	2075	\$0	\$0	\$0	\$234,667	\$1,211,342	\$11,371	\$173,409	\$895,131	\$8,402
70	5.286	0.009	2076	\$0	\$0	\$0	\$106,937	\$565,253	\$4,959	\$128,332	\$678,344	\$5,951
71	5.413	0.008	2077	\$0	\$0	\$0	\$106,937	\$578,819	\$4,746	\$128,332	\$694,624	\$5,695
72	5.543	0.008	2078	\$0	\$0	\$0	\$106,937	\$592,711	\$4,542	\$128,332	\$711,295	\$5,450
73	5.676	0.007	2079	\$0	\$0	\$0	\$106,937	\$606,936	\$4,346	\$128,332	\$728,366	\$5,216
74	5.812	0.007	2080	\$0	\$0	\$0	\$234,667	\$1,363,850	\$9,128	\$173,409	\$1,007,828	\$6,745
75	5.951	0.006	2081	\$0	\$0	\$0	\$106,937	\$636,418	\$3,981	\$128,332	\$763,747	\$4,777
76	6.094	0.006	2082	\$0	\$0	\$0	\$106,937	\$651,692	\$3,810	\$128,332	\$782,077	\$4,572
77	6.240	0.005	2083	\$0	\$0	\$0	\$106,937	\$667,333	\$3,646	\$128,332	\$800,847	\$4,375
78	6.390	0.005	2084	\$0	\$0	\$0	\$106,937	\$683,349	\$3,489	\$128,332	\$820,067	\$4,187
79	6.544	0.005	2085	\$0	\$0	\$0	\$234,667	\$1,535,559	\$7,327	\$173,409	\$1,134,713	\$5,415
80	6.701	0.004	2086	\$0	\$0	\$0	\$106,937	\$716,543	\$3,196	\$128,332	\$859,903	\$3,835
81	6.861	0.004	2087	\$0	\$0	\$0	\$106,937	\$733,740	\$3,058	\$128,332	\$880,541	\$3,670

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#4b Institutional Controls, Monitoring, Source Treatment and Containment (2035)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
82	7.026	0.004	2088	\$0	\$0	\$0	\$106,937	\$751,350	\$2,927	\$128,332	\$901,673	\$3,512
83	7.195	0.004	2089	\$0	\$0	\$0	\$106,937	\$769,382	\$2,801	\$128,332	\$923,314	\$3,361
84	7.367	0.003	2090	\$0	\$0	\$0	\$234,667	\$1,728,886	\$5,882	\$173,409	\$1,277,573	\$4,347
85	7.544	0.003	2091	\$0	\$0	\$0	\$106,937	\$806,756	\$2,565	\$128,332	\$968,165	\$3,078
86	7.725	0.003	2092	\$0	\$0	\$0	\$106,937	\$826,118	\$2,455	\$128,332	\$991,400	\$2,946
87	7.911	0.003	2093	\$0	\$0	\$0	\$106,937	\$845,945	\$2,349	\$128,332	\$1,015,194	\$2,819
88	8.101	0.003	2094	\$0	\$0	\$0	\$106,937	\$866,248	\$2,248	\$128,332	\$1,039,559	\$2,698
89	8.295	0.002	2095	\$0	\$0	\$0	\$234,667	\$1,946,552	\$4,722	\$173,409	\$1,438,420	\$3,489
90	8.494	0.002	2096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
91	8.698	0.002	2097	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
92	8.907	0.002	2098	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
93	9.120	0.002	2099	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
94	9.339	0.002	2100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
95	9.563	0.002	2101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96	9.793	0.002	2102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
97	10.028	0.001	2103	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
98	10.269	0.001	2104	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
99	10.515	0.001	2105	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
100	10.767	0.001	2106	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
101	11.026	0.001	2107		\$0	\$0			\$0			\$0
102	11.291	0.001	2108									
103	11.561	0.001	2109									
104	11.839	0.001	2110									
105	12.123	0.001	2111									
106	12.414	0.001	2112									
107	12.712	0.001	2113									
108	13.017	0.001	2114									
109	13.329	0.001	2115									

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#4b Institutional Controls, Monitoring, Source Treatment and Containment (2035)				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Escalation Rate	Discount Rate		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
110	13.649	0.001	2116									
111	13.977	0.001	2117									
112	14.312	0.001	2118									
113	14.656	0.000	2119									
114	15.008	0.000	2120									
115	15.368	0.000	2121									
116	15.737	0.000	2122									
117	16.114	0.000	2123									
118	16.501	0.000	SUBTOTALS	\$12,163,699	\$22,645,534	\$4,695,302	\$11,174,911	\$40,925,356	\$2,311,922	\$11,462,942	\$42,027,239	\$2,332,187
119	16.897	0.000	TOTALS	34,801,552	105,598,128	9,339,411						
Escalation rates were taken from "http://oecm.energy.gov/Portals/2/2004Rates.pdf," Office of Engineering and Construction Management, US Department of Energy (DOE).												
Discount rates were taken from "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study," US Army Corps of Engineers (USACE)/US Environmental Protection Agency (EPA).												
These numbers do not include contingency. For contingency, see "Summary Cost Estimate Sheet"												

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#5 Contingent SRPA Pump & Treat for Cleanup				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Current 2006 Dollars	Escalated Dollars		Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%		
Escalation Rate Discount Rate			2004									
Year			2005									
0	1.000	1.000	2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1	1.027	0.935	2007	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2	1.054	0.873	2008	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
3	1.079	0.816	2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
4	1.105	0.763	2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5	1.131	0.713	2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
6	1.159	0.666	2012	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7	1.186	0.623	2013	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8	1.215	0.582	2014	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
9	1.244	0.544	2015	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
10	1.274	0.508	2016	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
11	1.304	0.475	2017	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
12	1.336	0.444	2018	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
13	1.368	0.415	2019	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
14	1.401	0.388	2020	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
15	1.434	0.362	2021	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
16	1.469	0.339	2022	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
17	1.504	0.317	2023	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
18	1.540	0.296	2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
19	1.577	0.277	2025	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
20	1.615	0.258	2026	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
21	1.654	0.242	2027	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
22	1.693	0.226	2028	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
23	1.734	0.211	2029	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
24	1.775	0.197	2030	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
25	1.818	0.184	2031	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#5 Contingent SRPA Pump & Treat for Cleanup				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
26	1.862	0.172	2032	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
27	1.906	0.161	2033	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
28	1.952	0.150	2034	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29	1.999	0.141	2035	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
30	2.047	0.131	2036	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
31	2.096	0.123	2037	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
32	2.146	0.115	2038	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
33	2.198	0.107	2039	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
34	2.251	0.100	2040	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
35	2.305	0.094	2041	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
36	2.360	0.088	2042	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
37	2.417	0.082	2043	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
38	2.475	0.076	2044	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
39	2.534	0.071	2045	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
40	2.595	0.067	2046	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41	2.657	0.062	2047	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
42	2.721	0.058	2048	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
43	2.786	0.055	2049	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
44	2.853	0.051	2050	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
45	2.922	0.048	2051	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
46	2.992	0.044	2052	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
47	3.063	0.042	2053	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
48	3.137	0.039	2054	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
49	3.212	0.036	2055	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
50	3.289	0.034	2056	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
51	3.368	0.032	2057	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
52	3.449	0.030	2058	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
53	3.532	0.028	2059	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#5 Contingent SRPA Pump & Treat for Cleanup				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Year	Current 2006 Dollars	Escalated Dollars		Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%		
54	3.617	0.026	2060	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
55	3.704	0.024	2061	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
56	3.792	0.023	2062	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
57	3.883	0.021	2063	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
58	3.977	0.020	2064	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
59	4.072	0.018	2065	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
60	4.170	0.017	2066	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
61	4.270	0.016	2067	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
62	4.372	0.015	2068	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
63	4.477	0.014	2069	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
64	4.585	0.013	2070	\$7,982,665	\$38,376,285	\$441,300	\$0	\$0	\$0	\$0	\$0	\$0
65	4.695	0.012	2071	\$0	\$0	\$0	\$820,813	\$3,853,535	\$47,415	\$0	\$0	\$0
66	4.807	0.011	2072	\$0	\$0	\$0	\$820,813	\$3,946,020	\$45,376	\$0	\$0	\$0
67	4.923	0.011	2073	\$0	\$0	\$0	\$820,813	\$4,040,724	\$43,426	\$0	\$0	\$0
68	5.041	0.010	2074	\$0	\$0	\$0	\$820,813	\$4,137,702	\$41,559	\$0	\$0	\$0
69	5.162	0.009	2075	\$0	\$0	\$0	\$820,813	\$4,237,006	\$39,772	\$0	\$0	\$0
70	5.286	0.009	2076	\$0	\$0	\$0	\$820,813	\$4,338,695	\$38,062	\$0	\$0	\$0
71	5.413	0.008	2077	\$0	\$0	\$0	\$820,813	\$4,442,823	\$36,426	\$0	\$0	\$0
72	5.543	0.008	2078	\$0	\$0	\$0	\$820,813	\$4,549,451	\$34,860	\$0	\$0	\$0
73	5.676	0.007	2079	\$0	\$0	\$0	\$820,813	\$4,658,638	\$33,361	\$0	\$0	\$0
74	5.812	0.007	2080	\$0	\$0	\$0	\$820,813	\$4,770,445	\$31,927	\$0	\$0	\$0
75	5.951	0.006	2081	\$0	\$0	\$0	\$820,813	\$4,884,936	\$30,555	\$0	\$0	\$0
76	6.094	0.006	2082	\$0	\$0	\$0	\$820,813	\$5,002,174	\$29,241	\$0	\$0	\$0
77	6.240	0.005	2083	\$0	\$0	\$0	\$820,813	\$5,122,226	\$27,984	\$0	\$0	\$0
78	6.390	0.005	2084	\$0	\$0	\$0	\$820,813	\$5,245,160	\$26,781	\$0	\$0	\$0
79	6.544	0.005	2085	\$0	\$0	\$0	\$820,813	\$5,371,044	\$25,630	\$0	\$0	\$0
80	6.701	0.004	2086	\$0	\$0	\$0	\$820,813	\$5,499,949	\$24,528	\$0	\$0	\$0
81	6.861	0.004	2087	\$0	\$0	\$0	\$820,813	\$5,631,948	\$23,473	\$0	\$0	\$0

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#5 Contingent SRPA Pump & Treat for Cleanup				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST			PERIODIC COST		
Escalation Rate	Discount Rate	Year		Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
82	7.026	0.004	2088	\$0	\$0	\$0	\$820,813	\$5,767,114	\$22,464	\$0	\$0	\$0
83	7.195	0.004	2089	\$0	\$0	\$0	\$820,813	\$5,905,525	\$21,498	\$0	\$0	\$0
84	7.367	0.003	2090	\$0	\$0	\$0	\$820,813	\$6,047,258	\$20,574	\$0	\$0	\$0
85	7.544	0.003	2091	\$0	\$0	\$0	\$820,813	\$6,192,392	\$19,690	\$0	\$0	\$0
86	7.725	0.003	2092	\$0	\$0	\$0	\$820,813	\$6,341,009	\$18,843	\$0	\$0	\$0
87	7.911	0.003	2093	\$0	\$0	\$0	\$820,813	\$6,493,193	\$18,033	\$0	\$0	\$0
88	8.101	0.003	2094	\$0	\$0	\$0	\$820,813	\$6,649,030	\$17,258	\$0	\$0	\$0
89	8.295	0.002	2095	\$0	\$0	\$0	\$820,813	\$6,808,607	\$16,516	\$0	\$0	\$0
90	8.494	0.002	2096	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
91	8.698	0.002	2097	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
92	8.907	0.002	2098	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
93	9.120	0.002	2099	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
94	9.339	0.002	2100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
95	9.563	0.002	2101	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96	9.793	0.002	2102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
97	10.028	0.001	2103	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
98	10.269	0.001	2104	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
99	10.515	0.001	2105	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
100	10.767	0.001	2106	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
101	11.026	0.001	2107		\$0	\$0			\$0			\$0
102	11.291	0.001	2108									
103	11.561	0.001	2109									
104	11.839	0.001	2110									
105	12.123	0.001	2111									
106	12.414	0.001	2112									
107	12.712	0.001	2113									
108	13.017	0.001	2114									
109	13.329	0.001	2115									

Discount Rate 0.070			PROJECT:	OU 3-14 Tank Farm			ALTERNATIVE:	#5 Contingent SRPA Pump & Treat for Cleanup				
			<div>LIFE CYCLE COST ANALYSIS</div>									
			Year	Escalation Rate	Discount Rate	Year	CAPITAL COST			ANNUAL OPERATION AND MAINTENANCE (O&M) COST		
Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%					Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%	Current 2006 Dollars	Escalated Dollars	Net Present Value @ 7%
110	13.649	0.001	2116									
111	13.977	0.001	2117									
112	14.312	0.001	2118									
113	14.656	0.000	2119									
114	15.008	0.000	2120									
115	15.368	0.000	2121									
116	15.737	0.000	2122									
117	16.114	0.000	2123									
118	16.501	0.000	SUBTOTALS	\$7,982,665	\$38,376,285	\$441,300	\$20,520,325	\$129,936,604	\$735,251	\$0	\$0	\$0
119	16.897	0.000	TOTALS	28,502,990	168,312,890	1,176,551						
Escalation rates were taken from "http://oecm.energy.gov/Portals/2/2004Rates.pdf," Office of Engineering and Construction Management, US Department of Energy (DOE).												
Discount rates were taken from "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study," US Army Corps of Engineers (USACE)/US Environmental Protection Agency (EPA).												
These numbers do not include contingency. For contingency, see "Summary Cost Estimate Sheet"												